THE Blue Jay

Vol. XIX, No. 3 SASKATOON, SASK. SEPTEMBER, 1961

MMER

Photo by Hans S. Dommasch, Saskatoon

Published quarterly by
THE SASKATCHEWAN NATURAL HISTORY SOCIETY
REGINA, SASK.

BLUE JAY CHATTER

The question of finance is always important. How the Saskatchewan Natural History Society is going to finance the printing of the **Blue Jay** is uppermost in our minds this year when drought and grasshoppers (see front cover) are threatening the economy of Saskatchewan. **Blue Jay** costs are discussed at each meeting of our society and they will again be discussed at our annual meeting, October 13 and 14, 1961.

Since our main contribution to natural history is the publishing of the **Blue Jay** and since our main expense is the printing of our magazine, I asked Frank Inglis, our Midwest Litho representative in Regina, for a statement of costs. This does not include the 3% education tax.

March, 1961, printing costs		**June, 1961, printing costs**	
56 pages @ $12.85	719.60	48 pages @ $12.85	616.80
Cover	153.15	Cover	153.15
37 half tones @ $3.00	111.00	34 half tones @ $3.00	102.00
Total (as invoiced)	983.75	Total	871.95

The cost of the 56-page March issue was 28.93 cents per magazine. At this price, it would cost over $1.00 to print the four **Blue Jays** that each member receives each year. Active members, who pay $2.00 yearly, may not realize that schools and junior members, more than one-third of our membership, pay only $1.00. This low rate is designed to encourage junior naturalists, but it is obvious that if all our funds go to subsidize the magazine, nothing is left for other projects like special publications and wildlife refuges. The executive therefore instructed the editors to reduce the number of pages in order to cut the unit cost.

The rather conspicuous reduction from 56 to 48 pages in the June issue saved about $110. When this total is divided among the members we find that only 3.29 cents has been saved on each magazine, 13.16 cents for a whole year, at a sacrifice of 32 pages. This seems a serious loss when we are trying to increase the size and value of our magazine.

Mr. Inglis pointed out that since the cost of the cover and certain other expenses are more or less constant, the best way to cut our unit cost would be to increase our membership. The unit cost of an issue of 48 pages would vary considerably depending on the number printed: thus 3,000 would cost 27 cents each; 5,000 would cost 21.5 cents each; 10,000 would cost 17.06; 15,000 would cost only 14.87 cents each.

A drop in membership will make printing costs prohibitively high. In spite of increasingly difficult economic conditions in Saskatchewan, I hope every effort will be made to hold our present membership. Please do what you can to find new members to replace those forced to drop out.

We have some March and June **Blue Jays** on hand, proving that there has been a drop in our membership even this year. To dispose of this surplus we are offering (see page 148) all four 1961 **Blue Jays** for only $1.00. If you know of anyone who might be interested in this special offer please be sure to tell him of it. If you would like to take advantage of this offer for some friend please do not delay till Christmas for the offer is good only while the supply of extra copies lasts. Write to Mrs. G. Steele, 3603 Caen Avenue, Regina.

Your membership does not run out till the end of the year but because of the heavy mail in December we are putting the renewal notice in the September issue. We hope that you will use this form soon so that we can make up our 1962 mailing list at an early date, thus saving much confusion and some disappointment. If you know anyone who paid for the 1961 **Blue Jay** and has not been receiving copies please write to the treasurer.

Help your society by renewing promptly, by buying our special publications, by entering our special projects and by using our Christmas card.

The Blue Jay

Published quarterly by the Saskatchewan Natural History Society
Founded in 1942 by Isabel M. Priestly
Authorized as second class mail. P.O. Department, Ottawa

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Regular Membership (including **Blue Jay**), **$2.00**; Junior Membership, $1.00.

The Fairy Valley

by **John E. Nixon,** Wauchope

The elves and the fairies, so some people say,
Left us forever one midsummer day;
But I know a valley—a cup in the hills—
A green place of wonder, where strange music thrills.

A vale where in summer the shadows are cool.
Where I love to linger when I come from school.
For have I not seen there more wonderful things
Than ever were dreamed of in castles of kings.

The elves and the fairies are gone, so I'm told,
But I know a deep glade they haunt as of old;
A circle of magic, where bird, beast and bee,
Are one with enchantment that few eyes can see.

Where gold shafts of sunlight glance down through the leaves.
I stand wrapt in silence, and fantasy weaves
A spell all around me, and opens my eyes
To marvels well hidden from mortals more wise.

A woodpecker tapping . . . 'tis a dwarf in his mine!
Dew caught in a harebell . . . 'tis Oberon's wine!
A wren shrilly scolding from some mossy bank,
Is Puck bent on mischief in some crazy prank!

And high up above me, unfearful of man,
A thrasher is singing . . . 'tis the wild pipes of Pan!
They say that the fairies no longer are found,
But I know my valley is still faerie ground!

—JOHN E. NIXON.

Hawking With Houston

by **J. Boswell Belcher**, Dilke

Last fall the seer was out on a historic sites tour north of Saskatoon with Stuart Houston who, being a bird bander, naturally had his Sparrow Hawk trap along.

The Sparrow Hawk trap is a little wire cage built on top of a horse-shoe. Inside the cage is a live mouse to lure the hawk which, if it attacks, gets its feet caught in an ingenious tangle of fine nylon nooses on top of the cage.

We spotted a Sparrow Hawk moving along by the road as we returned home. "It's simple" Stuart said, "I'll drive along till it lights on a post and as we pass it I'll slow down and you can drop the trap on the road; the horse-shoe will keep it upright." We sped along at quite a speed while I hung out the side with the door open in readiness. Finally the car slowed considerably, then started to gain speed. As I could neither see the speedometer nor watch the hawk as I hung out the door, I was expecting to be given the word to drop the trap. However, when the speed suddenly increased I felt I must have missed the cue so without further thought I dropped the trap. "Oh, you shouldn't have dropped it yet," Stuart protested, "the hawk hasn't landed!" That was my first blunder, and we had to go back to pick up the trap which had rolled into the weeds where it wouldn't have been any good, anyway.

We went on again and overtook the hawk conveniently perched on a post. Once again I opened the car door and hung out in readiness. I was rather uneasy hanging out in such an awkward position as we rolled along at about 20 and when I was given the word I dropped the trap from about a foot off the ground causing it to roll to the weeds at the edge. However, it was upright and not far out of sight so we drove away for a spell, but the hawk appeared uninterested and we had to pick up the trap as we were not coming back that way.

Some distance further on we came across another Sparrow Hawk. By this time I had gained confidence from my practice and previous mistakes. I coolly hung out the door holding the trap carefully level, just inches above the road, ready to drop it gently so it would sit upright on the open side of the road. Everything seemed perfect; at the signal I set the trap down carefully but as the speeding car pulled my hand away from the trap, a little noose tightened over my finger and I knew the trap would roll toward the car. The noose, of course, broke but my fears were well founded. I had rolled the trap under the rear wheel and when we backed up to collect the wreckage nothing was of salvage value except the horse-shoe! And so ended the seer's first attempt at setting Sparrow Hawk traps to help a bird bander.

Apart from this novel hawk trapping experience, the seer hasn't much to report. A few observations of the past year do however come to mind. A year ago (in June, 1960) when we were crossing the Arm Valley north of Bethune we saw an Osprey—the first I have ever seen. Then this spring, on March 21, 1961, we saw what we think was an Eastern Bluebird about two miles northwest of Findlater. When we first saw it along the roadside it didn't show much colour, but when we stopped, though we had no binoculars with us and couldn't get too close a look, it definitely showed a blue-coloured back, not bright at all like the Mountain Bluebird, and its breast appeared dull red.

Another observation I recall was made one day last summer when I was riding over the pasture to get the cows and noted a Willet making fierce, excited "dive bomb" attacks at something on the ground in a shallow slough. On coming closer I could see a Marsh Hawk eating something which turned out to be a Willet, no doubt the mate of the attacking bird. It was too early in the season for this to be a young bird and anyway the feathers and carcass left no doubt it was an adult. Considering the size and activity of a mature Willet this situation was quite a surprise to me. I concluded there must have been a nest or very young birds nearby and the parent had stayed sitting too long or had been caught in an attempt to protect the young.

Co-operative Spring Migration Study, 1961

Compiled by
MARY HOUSTON
Saskatoon

	BATTLEFORD Spencer Sealy	BLADWORTH P. Lawrence Beckie	DILKE J. B. Belcher	DUBUC Geo. Chopping	ESTEVAN Ross Lein	FORT QU'APPELLE Manley Callin	HAZELCLIFFE J. M. Provick
Whistling Swan	Ap12	Ap20	Ap14	My 1		Ap 8	
Canada Goose	Ap 1	Mr23	Mr21	Mr25		Ap 8	Mr26
Mallard	Mr31	Ap18	Ap 6	Ap 9	Ap 6	Ap 9	Ap22
Pintail	Ap 1	Ap 2	Mr21	Mr24	Ap 3	Ap 8	Mr26
Marsh Hawk	Mr19	Ap 7	Mr31	Mr24	Ap 1	Ap 2	Mr21
Killdeer	Ap 1	Ap10	Ap 3	Ap 2	Ap 1	Ap 9	Ap17
Common Snipe				My12	My12	Ap30	
Mourning Dove	My 9	My15	My11	My 6	Ap30	Ap21	My 6
Common Nighthawk	My21			My14	My30	Jn 1	
Yellow-shafted Flicker	Ap16	Ap28	Ap30	Ap16	Ap14	Ap18	Ap22
Eastern Kingbird	My17	My20	My13		My10	My20	My23
Eastern Phoebe	My21			My20		My12	
Barn Swallow	My 6	My12	My 5	My11	My12	My 6	My 7
Purple Martin							
Common Crow	Mr16	Mr18	Mr18	Mr16	Mr16	Mr18	Mr17
House Wren	My15	My25		My16	My18	My11	My21
Catbird	Jn 4			My31	My14	My18	My24
Brown Thrasher	Jn 4	My14	My24	My20	My12	My14	
Yellow Warbler	My13	My17	My22	My21	My12	My13	My24
Myrtle Warbler	My 1	My 9	My12	Ap29	Ap30	Ap26	
Redwinged Blackbird	My10	Ap12	Ap 9	Ap 6	Ap 5	Ap 9	Ap28
Baltimore Oriole	My20	My18	My19	My20	My17	My18	My22
American Goldfinch	Jn 2	My30	My27		My26	My22	
Slate-colored Junco	Ap11	Ap10		Ap 1	Mr18	Mr26	Ap 4
Chipping Sparrow	Ap17	My12	My12	Ap 2	My 5	My 7	My 9
White-crowned Sparrow	Ap20	My 3	My 1	Ap29	Ap19	My 7	
White-throated Sparrow	Ap21	My12	My13	Ap30	My 3	My 7	My 7

Co-operative Spring Migration Study, 1961

KINDERSLEY Glen A. Fox	KINLOCH Mrs. H. Rodenberg	LEADER Daisy Myers	MASEFIELD J. David Chandler	NAICAM W. Yanchinski	NIPAWIN Maurice G. Street	PLEASANTDALE Keith Harper	PRINCE ALBERT Tony Capusten	PRINCE ALBERT Don Karasiuk	REGINA
Ap 6	My 3			Ap24	Ap21	My 9			Ap 9
Mr 9	Mr28	Mr15		Mr.24	Ap 2	Mr22	My15		Ap 8
Mr21	Ap10	Mr24	Mr18	Ap13	Ap13	Ap 8	My 6	Ap12	
Mr20	My 1	Mr26		Ap13	Ap14	Ap 8	My 7	Ap12	Mr20
Ap 7	Mr26		Mr19	Mr23	Mr29	Mr26	My 7		Mr16
Ap 2	Ap 9	Ap20		Ap17	Ap 6	Ap19	Ap22	Ap12	Mr 6
						My19	My 9	My12	Ap29
	My10	My 3	My14	My15	Ap23	My 7	My 7		Ap13
Jn15		My31			Jn 1	My30	My28	My24	My20
Ap29	Ap21	Ap21		Ap24	Ap25	Ap28	My 2	Ap30	Ap20
My21		My22	My21	My23	My22	My20			My13
	My 2		Ap29	Ap30		My10	My14		
My19	My13	My12	My 6	My15	My14	My 9		My14	My 4
	My 1					My12	Ap30	My 9	My 6
Mr15	Mr28	Mr19		My19	My17	Mr19	Mr20	Mr19	Mr14
My20	My14	Jn15		My19	My18	My14	My23	My20	My13
Jn 1				My24	My23	My28	My24	My22	My14
	Jn 1	My21						My22	My13
My10		My18	My14	My21	My22	My17	My14	My15	My 7
			My14	My14	Ap25	My15	My 7	My 7	Ap20
Ap16	Ap28	Ap23	Ap 1	Ap18	My 1	Ap20	My 6	My 9	Ap 9
My26	My28	My26		My18	My22	My21	My23		My13
Jn12	My27	My23			My26		Jn 9		My24
Ap 4	Ap 8	Ap 4	Ap 1	My31	Ap 9	Ap10	Ap14	Ap 9	Mr19
	Ap21			My14	My14	Ap10	My15	My 9	My 2
My15	My 2		My 6		My10	My15		My 8	My 1
My 2	My 2			My 6	My 3	Ap14	My 7	My 8	My 3

Co-operative Spring Migration Study, 1961

	SASKATOON Saskatoon N.H.S.	SHEHO Wm. Niven	SKULL CREEK Steve A. Mann	SPIRIT LAKE Wm. Anaka	SPIRIT LAKE Joyce Gunn	STORNOWAY Stanley Zazelenchuk	TULLIS Mrs. E. C. Boon	ERSKINE, Alta. Lloyd M. Lohr	DUNREA, Man. Ernest J. White
Whistling Swan	Ap23	Ap20	Ap 5	My 1	Ap30		Ap15	Mr31	
Canada Goose		Mr20	Mr18	Mr28	Mr31	Mr25	Mr24	Mr23	
Mallard	Mr26	Ap 3	Mr18	Ap 8	Ap13	Ap 5	Mr24	Mr20	Ap 8
Pintail	Ap17	Ap 3	Ap 4	Ap 3	My 1	Ap 4	Ap12	Ap 4	Ap12
Marsh Hawk	Ap15	Mr22	Mr30	Mr23	Mr21	Mr23	Mr28	Mr24	Ap10
Killdeer	Ap16	Ap 7	Ap10	Ap 8	Ap 7	Ap 7	Ap12	Mr24	Mr21
Common Snipe	My 7	Ap24	Ap20	My11	My 4	My 2		My 3	
Mourning Dove	Ap30	Ap30	Ap26	Ap23	Ap22	My 3		My29	Ap 3
Common Nighthawk	My28	My26	Jn 8	My29	My28	My 1			
Yellow-shafted Flicker	Ap23	Ap18	Ap 4	Ap23	Ap18	Ap19		My 1	Ap17
Eastern Kingbird	My17	My17	My14	My24	My20	My18	My16	My17	My22
Eastern Phoebe	My22	My 5	My12	Ap28	Ap22	Ap28			
Barn Swallow	My 7	My 7	My 4	My 4	My 8	My 3	My12	My17	My 7
Purple Martin		My 3						Ap24	
Common Crow	Mr25	Mr17	Mr16	Mr18	Mr17	Mr18	Mr16	Mr20	Mr13
House Wren	My14	My19	My12	My20	My19	My 7		My 6	My15
Catbird	My22	My20	My14	My22	My24	My10	My12		My22
Brown Thrasher	My14	My13	My17		Jn24	My22		Jn16	My30
Yellow Warbler	My13	My19	My15	My22	My22	My17		My22	My21
Myrtle Warbler	My 3	Ap24	Ap29	Ap23	Ap23	Ap24			My 3
Redwinged Blackbird	Ap23	Ap 3	Ap20	Ap 5	Ap17	Ap 3	Ap28	Ap18	Ap21
Baltimore Oriole	My22	My22	My16	My17	My20	My21		My22	My20
American Goldfinch	My28	My28	My25	My26	Jn20	My17		Jn 2	My31
Slate-colored Junco	Ap 9	Mr29	Mr16	Mr25	Mr24	Mr25		Ap25	Mr17
Chipping Sparrow	My13	My15	My 3		Ap22	My 4		My15	
White-crowned Sparrow	My 2	My13	Ap17	My13		Ap25	My15	My 4	My 4
White-throated Sparrow	My10	My 4	My 9	Ap25	My 3	My 1		My15	

FIFTH ANNUAL MAY DAY COUNT
SASKATOON NATURAL HISTORY SOCIETY, MAY 22, 1961

Ordinarily May 22 should be an ideal day to record warbler and shorebird migrants. This year, all but a few stragglers had moved north by that date. Since few ponds contained water, most of the duck, shorebird and yellow-headed blackbird records are from the Hudson Bay Slough and Moon Lake.

Twenty-one observers in four parties, covering the Christmas Count area, recorded 100 species, one more than last year, 12 fewer than the record of 112 established in 1959.

The list of birds seen follows. Last year's totals are given in brackets.

Horned Grebe, 20 (21), Eared Grebe, 3 (6); Western Grebe, 5 (0); Great Blue Heron, 1 (0); Mallard, 165 (92); Gadwall, 11 (5); Pintail, 23 (23); Green-winged Teal, 17 (4); Blue-winged Teal, 78 (10); American Widgeon, 32 (19); Shoveler, 38 (25); Redhead, 16 (2); Canvasback, 30 (17); Lesser Scaup, 52 (50); Common Goldeneye, 5 (0); Bufflehead, 3 (0); Cooper's Hawk, 1 (0); Red-tailed Hawk, 2 (1); Swainson's Hawk, 4 (0); Marsh Hawk, 7 (5); Sparrow Hawk, 4 (2); Sharp-tailed Grouse, 25 (2); Ring-necked Pheasant, 9 (6); Gray Partridge, 6 (0); Sora, 1 (2); Coot, 114 (55); Semipalmated Plover, 2 (0); Killdeer, 28 (12); Golden Plover, 1 (0); Spotted Sandpiper, 6 (1); Willet, 19 (9); Lesser Yellowlegs, 2 (5); Baird's Sandpiper, 1 (60); Stilt Sandpiper, 10 (0); Semipalmated Sandpiper, 50 (0); Marbled Godwit, 16 (1); Sanderling, 2 (1); Wilson's Phalarope, 15 (18); California Gull, 4 (50); Ring-billed Gull, 66 (110); Franklin's Gull, 11, (76); Black Tern, 82 (119); Rock Dove, 65 (24); Mourning Dove, 69 (29); Yellow-shafted Flicker, 15 (3); Hairy Woodpecker, 1 (1); Downy Woodpecker, 2 (0); Eastern Kingbird, 11 (14); Western Kingbird, 4 (0); Eastern Phoebe, 3 (2); Say's Phoebe, 1 (0); Least Flycatcher, 70 (26); Western Wood Pewee, 1 (0); Horned Lark, 15 (14); Tree Swallow, 22 (16); Bank Swallow, 42 (6); Barn Swallow, 36 (41); Cliff Swallow, 4 (0); Blue Jay, 1 (2); Magpie, 37 (34); Crow, 79 (71); Black-capped Chickadee, 4 (10); House Wren, 20 (14); Catbird, 6 (7); Brown Thrasher, 28 (26); Robin, 44 (33); Swainson's Thrush, 1 (18); Veery, 3 (1); Mountain Bluebird, 33 (7); Ruby-crowned Kinglet, 3 (1); Sprague's Pipit, 9 (4); Loggerheaded Shrike, 13 (3); Starling, 53 (29); Philadelphia Vireo, (?) 1 (0); Warbling Vireo, 9 (4); Black and White Warbler, 1 (0); Tennessee Warbler, 4 (2); Yellow Warbler, 129 (49); Myrtle Warbler, 4 (0); American Redstart, 1 (3); House Sparrow, 480 (162); Western Meadowlark, 51 (49); Yellow-headed Blackbird, 75 (39); Red-winged Blackbird, 227 (111); Baltimore Oriole, 28 (18); Brewer's Blackbird, 134 (79); Common Grackle, 28 (24); Cowbird, 37 (28); Rose-breasted Grosbeak, 3 (0); Pine Siskin, 37 (0); American Goldfinch, 1 (12); Rufous-sided Towhee, 8 (9); Lark Bunting, 1 (0); Savannah Sparrow, 34 (26); Vesper Sparrow, 131 (59); Chipping Sparrow, 24 (24); Clay-colored Sparrow, 360 (67); White-throated Sparrow, 1 (3); Lincoln's Sparrow, 1 (0); Song Sparrow, 74 (73). Compiler: FRANK ROY, Saskatoon.

FIRST ANNUAL SPRING BIRD CENSUS
REGINA NATURAL HISTORY SOCIETY, MAY 13, 1961

As a continuing feature of the R.N.H.S.'s summer field trip program the Annual Spring Bird Census, to take place on the Saturday nearest May 15th, was inaugurated on May 13, 1961. We kept to the area of the Christmas Bird Count, deploying the teams in the main in accordance with the country water. We chose the more difficult census rather than the simpler count of species as being of more value as time goes on; also, it will tie in well with Saskatoon's now well established census taken about ten days later. The six teams turned up 131 species (an estimated 11,478 birds) including such notables as Upland Plover (1), Bonaparte's Gull (1), and a flood of migrant sparrows unprecedented in numbers.

SPECIES LIST: Horned Grebe (108); Eared Grebe (26); Western Grebe (18); Pied-billed Grebe (22); White Pelican (8); Great Blue Heron (7); Black-crowned Night Heron (8); American Bittern (2); Mute Swan (4); Whistling Swan (12); Canada Goose (126); Mallard (372); Gadwall (56); Pintail (138); Green-winged Teal (141); Blue-winged Teal (457); American Widgeon (175); Shoveler (216); Redhead (63); Ring-necked Duck (2); Canvasback (35); Lesser Scaup (1110); Common Goldeneye (1); Bufflehead (16); Ruddy Duck (107); Common Merganser (15); Red-tailed Hawk (3); Swainson's Hawk (12); Rough-legged Hawk (3); Marsh Hawk (22); Ruffed Grouse (1); Ring-necked Pheasant (5); Gray Partridge (8); Sora (10); American Coot (1630); Semipalmated Plover (16); Killdeer (49); Golden Plover (49); Black-bellied Plover (2); Common Snipe (6); Upland Plover (1); Spotted Sandpiper (14); Solitary Sandpiper (12); Willet (60); Greater Yellowlegs (19); Lesser Yellowlegs (42); Pectoral Sandpiper (270); Baird's Sandpiper (77); Least Sandpiper (106); Long-billed Dowitcher (40); Semipalmated Sandpiper (67); Marbled Godwit (24); American Avocet (42); Wilson's Phalarope (67); Ring-billed Gull (236); Franklin's Gull (59); Bonaparte's Gull (1); Common Tern (28); Black Tern (20); Rock Dove (105); Mourning Dove (55); Great Horned Owl (2); Burrowing Owl (4); Short-eared Owl (7); Belted Kingfisher (3); Yellow-shafted Flicker (8); Eastern Kingbird (1); Western Kingbird (9); Say's Phoebe (2); Least Flycatcher (48); Horned Lark (120); Tree Swallow (165); Bank Swallow (12);

Barn Swallow (39); Purple Martin (13); Black-billed Magpie (21); Black-capped Chickadee (6); Common Crow (91); House Wren (2); Brown Thrasher (1); Robin (43); Swainson's Thrush (179); Grey-cheeked Thrush (23); Veery (1); Ruby-crowned Kinglet (1); Sprague's Pipit (2); Loggerhead Shrike (7); Starling (57); Philadelphia Vireo (3); Black-and-White Warbler (2); Orange-crowned Warbler (38); Yellow Warbler (51); Magnolia Warbler (1); Myrtle Warbler (135); Blackpoll Warbler (9); Palm Warbler (9); Ovenbird (1); Northern Waterthrush (33); Yellowthroat (6); House Sparrow (520); Western Meadowlark (128); Yellow-headed Blackbird (222); Redwinged Blackbird (497); Baltimore Oriole (6); Rusty Blackbird (13); Brewer's Blackbird (119); Common Grackle (85); Brown-headed Cowbird (48); Rose-breasted Grosbeak (1); Purple Finch (8); Pine Siskin (1); Rufous-sided Towhee (10); Savannah Sparrow (89); Baird's Sparrow (11); Vesper Sparrow (36); Lark Sparrow (2); Slate-colored Junco (5); Oregon Junco (1); Tree Sparrow (6); Chipping Sparrow (43); Clay-colored Sparrow (188); Harris's Sparrow (217); White-crowned Sparrow (265); White-throated Sparrow (454); Fox Sparrow (6); Lincoln's Sparrow (328); Song Sparrow (45); McCown's Longspur (5); Lapland Longspur (475); Chestnut-collared Longspur (63); Snow Bunting (20). Compiler: FRANK BRAZIER, Regina.

A MANITOBA RECORD OF THE CATTLE EGRET

by **David Plews**, Brandon

On May 27 of this year (1961), Mr. Lane and I were down at the Big Marsh that extends from Alexander to Griswold, known by some as "Ashbury Marsh." Our trip was mainly to search for nests of American Avocets.

As we were motoring by an arm of the marsh, we spotted a fairly tall white bird, standing in the high grass beside the water. It was a startling sight, because as you know, we have no local birds with this appearance.

We both gave the stranger a long scrutiny through our glasses, then dug into our Peterson's for guidance. Nothing seemed to quite fit this particular bird, as is was evidently too short to be an American Egret and too slim to be a Snowy Egret. We gave some thought to it being an albino Black-crowned Heron, as it had about the same silhouette. However, this bird was not all white, having light brown patches on the pate, lower neck and lower back.

A few days later Mr. and Mrs. Cleveland Grant arrived to spend the summer in bird photography. Mr. Grant is well-known in that field, and is also a lecturer for the Audubon Society. We described the strange bird to both the Grants and also to Dr. Bill Gunn, the bird-song recorder for Toronto. Fortunately, the Grants saw the bird soon after, and at once said it was a Cattle Egret. Dr. Gunn had a copy of Peterson's **Birds of Texas** and sure enough, there was a coloured picture of the very bird!

About a week later we were back at the marsh again with a group of junior birders and some of the group saw the white bird again. Now, it is no longer at that spot in the marsh, but has probably moved to a more remote section where there may not be so many inquisitive bird-watchers!

Ed. Note—This is believed to be only the second Canadian record.

PARTIAL ALBINO SANDHILL CRANE

by **Richard S. Miller**, University of Saskatchewan, Saskatoon

On Thursday, April 27, I visited Last Mountain Lake with Doug Stephen. At the Leland Greenfield farm 4 miles west and 2 miles south of Hatfield I observed a partial albino Sandhill Crane. This bird was feeding with a flock of about 200 other Sandhills. From its size it appeared to be a first year bird.

The head, neck, breast and anterior portion of the back of the bird were pure white. This made the red on the head very noticeable. The posterior portion of the back and wings were the typical gray of a Sandhill Crane, although there was some mottling in the areas where the white blended into the gray.

I watched the bird from about 200 to 250 or 300 yards for about 20 minutes with 8-power binoculars. There was no question of the coloration as the bird was seen at every angle in good light, and it was unquestionably a Sandhill by its size and appearance.

A Common Redpoll Nest Record for Southern Saskatchewan

by **Fred W. Lahrman** and **Robert W. Nero**, Sask Museum of Natural History

Dr. Stuart Houston has recently indicated (1960. Lake Athabasca records of interest. **Blue Jay**, 18:125), that there is no published nest record of the Common Redpoll (*Acanthis flammea*) for Saskatchewan. Several years ago the senior author (Lahrman) observed and took notes on a nest of this species at Mortlach, on the southern plains of Saskatchewan. This most unusual occurrence should have been reported earlier, but unfortunately his notes were lost and he has delayed reporting this incident until now, hoping to find them.

In early June of 1945, Mr. K. (Casey) Harris Jones of Mortlach called Lahrman's attention to a pair of Redpolls which were nesting in his garden. Mr. Jones knew Redpolls well since many of them were regular visitors to his yard every year. Furthermore, he recognized that it was unusual for them to stay during the spring and summer and to breed in this region. On the day of his visit Lahrman watched a pair of Common Redpolls feeding five well-developed young in a nest which was placed in a low shrubbery about 14 inches above the ground. He distinctly saw the bright red patch on their foreheads and had no doubt whatsoever that they were redpolls. He returned the following day to photograph the nest but was disappointed to learn that a cat had taken the young during the night and that the adults had disappeared.

Mr. Jones, upon recent enquiry, provided some additional information regarding the state of the nest at the time of Lahrman's visit (pers. corres., 1960): ". . . the nest was as you mention approximately 14 inches above the ground in the rustic arch I had over the garden path. There were five young just about ready to leave the nest. The female was quite tame. I could walk right past her without disturbing her. I had a Morning Glory creeper climbing over the arch. This particular day the nest was pulled out and lying on the path. I will not repeat here the frightful curses; some of the oaths I used are possibly still floating around in the ether, not yet dissolved. I was sure mad, as you can imagine."

In later correspondence (1961) Mr. Jones added that during the early spring of the year they nested, a flock of about 30 were feeding on a profusion of Lamb's Quarters (*Chenopodium album*) which had gone to seed. Every day for quite a while Mr. Jones watched them feeding on the seeds of these plants until they moved on.

The American Ornithologists' Union **Check-list of North American birds**, lists this erratic species as **breeding** in Saskatchewan at the mouth of the McFarlane River on Lake Athabasca (1957:568). However, through recent correspondence (1961) with Dr. Francis Harper, who conducted a biological survey on Lake Athabasca in 1920, we have learned that this statement is apparently based on insufficient evidence. The question will be discussed further in a forthcoming list of the birds of the Uranium City-Lake Athabasca area. Redpolls could be expected to breed in Saskatchewan, especially in the extreme north-eastern corner, since, as Francis Harper points out in his "Birds of the Nueltin Lake Expedition, Keewatin, 1947" (1953, **Amer. Midl. Nat.**, 49:1-116), this species "evidently breeds through the Hudsonian Zone and along the upper border of the Canadian Zone as well as on the Barren Grounds." Records of Redpolls breeding outside of this area, however, are apparently unknown. Dr. Paul H. Baldwin, Colorado State University, who is currently studying the geographic variation of redpolls, has informed us (pers. corres., 1961) that he knows of no extra-limital breeding record for this species. The Mortlach record must be regarded as a very unusual case; presumably these birds lingered until the onset of breeding conditions while in a situation where suitable nesting cover evoked nesting. This is further substantiated by a recent observation of a pair of Common Redpolls at Regina as late as May 16 (1961). The pair was seen by Frank Brazier at noon in the Legislative

Grounds. He noted that they were closely associated, flying about together as if already paired. The two birds, which were seen within ten feet for several minutes, were more conspicuously marked than those usually seen here in the winter, and were apparently in their breeding plumage.

An extreme case of extra-limital breeding of another passerine species, the Parula Warbler (*Parula americana*), is of interest in this connection. In 1952 a male and two females with nests were discovered on the coast of California 1500 miles west of the normal range of this species. James Fisher considered this a "most fantastic example of a songbird nesting where it shouldn't." (Peterson, R. T., and J. Fisher, 1956. **Wild America,** Houghton Mifflin Co., Boston). The incident is discussed at some length in a recent issue of a western bird journal (Williams, L., K. Legg and F. S. L. Williamson, 1958. Breeding of the Parula Warbler at Point Lobos, California. **Condor**, 60:345-354). Williams, *et al*, point out that this was the first record of the species west of the Rocky Mountains and the southwestern deserts. "It is believed that, other conditions being suitable, the fortuitous occurrence of individuals of both sexes in an area in which an abundance of lichens hanging from trees provided nest sites and material similar to those used in the normal breeding range of the species induced breeding in these birds." No repetition of breeding, or even of occurrence, has been recorded in the area in subsequent years.

First Saskatchewan Nest of Barred Owl

by **Stuart Houston**, Saskatoon

Exciting news took my mind at once from the 95° sweltering heat on Sunday afternoon, June 4, when I received a phone call from Kelvington. Anton Waycheshen had travelled three miles by boat and twenty-one miles by car to reach a phone and report the first Saskatchewan nest of a Barred Owl. This was an emergency, and Bill Richards and I rapidly cancelled our social engagements for the evening, and twenty minutes later we were on our way to High Hill.

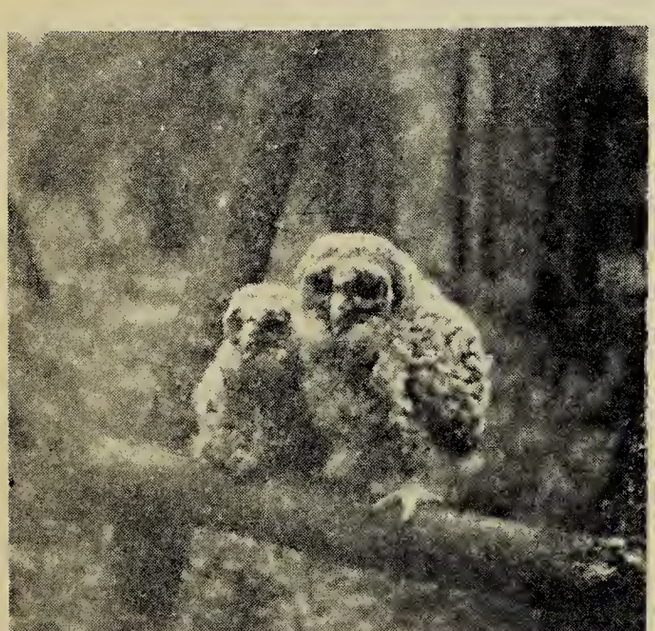


Photo by Bill Richards

Young Barred Owls, Klogei Lake, June 4, 1961.

Anton and Steve Waycheshen found the nest while fighting a forest fire in the southwest corner of the Porcupine Forest Reserve along the northeast corner of Klogei Lake (sec. 6, twp. 39, range 2 west of 2nd meridian). They had seen the parent owls acting in a concerned manner in this area on Sunday, May 28, and again on May 31, when Anton climbed a spruce to inspect the only visible nest nearby, which proved to be an unoccupied crow nest. However, on June 4, Anton climbed another spruce and was able to look down on the young Barred Owls—not in the type of nest he expected, but in the upper part of a nearby black poplar stub.

Bill and I reached the Waycheshen farm at 7 p.m. and Anton and Steve took us the length of nearby Klogei Lake in their boat. On the still, cool lake we obtained relief from the oppressive heat while watching Buffleheads and White-winged Scoters.

At the end of the lake, we walked across the quarter-mile strip of recently burned mixed forest—a desolate sight—and then along the bulldozed fireguard. It was fortunate indeed that the nest was on the right side of the fire guard, for otherwise it would have been destroyed by the fire.

The Barred Owl nest was in the upper part of a black poplar stub, 18

feet from the ground, where the tree had partially broken off in a previous storm. The upper part of the tree, supported by nearby spruce, had not completely broken away, but was angulated off at nearly a right angle, partially roofing the cavity of the stub which was open at one side.

The two young owls, about half-grown and still downy, were banded. Bill Richards attempted a photograph (with fair success, considering that it was nearly 9 p.m. and that he was using kodachrome film in the deep woods without a flash attachment).

As an anticlimax, we visited a Great Horned Owl nest in a spruce about a quarter-mile distant. After I climbed up fifty feet, both young owls flew just before I reached the nest. The weaker flier of the two landed in a nearby tree. Anton climbed several trees in succession, the owl losing altitude with each flight until finally we were able to band him.

Mrs. Steve Waycheshen served us supper when we got back to the farm after dark. We were tired but very happy when we arrived back in Saskatoon at 3 a.m.

The Barred Owl was first added to the Saskatchewan list in 1959 (Houston, **Blue Jay,** 17:94). We have the Waycheshens to thank for three of the six records, including the Klogei Lake bird which I banded on January 2, 1960 (**Blue Jay,** 18:105). This is the first nesting record for the province and it would be interesting to know whether the adult banded two winters before was one of the parents at the nest.

Russell Robertson is sure the Barred Owls occasionally nest in the Saskatchewan River lowlands near Cumberland House. Their range apparently extends south through the Porcupine Forest Reserve and, since there are records for Alberta and Manitoba, it probably occurs sparingly in the mixed forest right across the province. Support for this latter possibility is given by the comments of the Indian foreman of the fire-fighting crew. He came from Big River and before the Waycheshens had located the source of the strange noise, he correctly identified the strange distinctive "hoo, hoo, hoo, hoo-aw" as belonging to " a different and uncommon kind of owl." Two years ago Dr. A. E. Allin of Fort William prophesied that we would soon find a Barred Owl nest in Saskatchewan, and advised me to look in the tops of black poplar stubs. Members are advised to listen for the Barred Owl call, and watch for further Saskatchewan nests.

BANK SWALLOWS NESTING IN GRAVEL STOCKPILE NEAR CANORA

by **Larry Morgotch,** Yorkton

The photo shows a gravel stockpile eleven miles north of Canora, Sask. It has been undisturbed for two years, perhaps giving the gravel time to settle to a point where burrows can be dug without the wall collapsing. Bank Swallows' nests can also be found in sand dunes at Good Spirit Lake where the fine sand is well packed and tree roots help to keep it from caving in.

Museum Sandhill Cranes Habitat Group

by **Dave Green**, Regina

More wild and intractable than their environment, the Sandhill Cranes of North America lend to the spring and autumn skies above Saskatchewan a flavor of timelessness. To see Sandhill Cranes passing overhead in spring and fall migration and to hear their purling cry is to be a party to an unforgettable encounter, and at their resting place on Last Mountain Lake the birds present a spectacle that people have travelled thousands of miles to see.

Fortunately for the cranes, the flocking of the Sandhills at "The Fingers" on the northern end of the lake was not lost upon the early settlers in the area, who recognized it as an outstanding natural phenomenon. The area was set aside as a sanctuary in 1887.

Photo and preparation of group by F. W. Lahrman.

Because the cranes are so much a part of the Saskatchewan scene, and because the sight of them and sound of their calling leaves the beholder with an ineffable sense of wonder, whether he is "for 'em" or "agin 'em," the Saskatchewan Museum of Natural History, Department of Natural Resources, now beginning a long-range program to enlarge and standardize exhibits in the habitat gallery, has prepared the above Sandhill Cranes exhibit. The new display is roughly one foot higher, deeper and wider than the old exhibits.

Museum artist-preparator F. W. Lahrman, whose name is well known to readers of the **Blue Jay**, has been in charge of the preparations of this new exhibit. It depicts a part of the sanctuary on Last Mountain Lake, looking southward across "The Fingers." It includes a number of Sandhills returning to the lake from the autumn fields in which they have been feeding. Before the case was completed the public was able to see a scale model and on week-ends to see the week by week development of the exhibit.

A. W. Martin – Early Saskatchewan Bander

by **J. B. Gollop**, Canadian Wildlife Service, Saskatoon

In a paper given at the North American Wildlife Conference in March, 1956, the first use of dogs to assist in duck-banding was attributed to U.S. Fish and Wildlife Service personnel working in the 1940's (J. B. Gollop. The use of retrievers in banding flightless young mallards. Trans. 21st N.A. Wild. Conf. 1956:239-248). It now appears that a Saskatchewan man, A. W. Martin, had pioneered with this technique at least 20 years earlier.

In a letter to me from Port Arthur, Ontario, dated December 20, 1956, Mr. Martin wrote in part: "About thirty years ago I did some duck banding in Saskatchewan at Waterhen Lake east of Prince Albert, and in the southern part of the province. While I used various methods in catching the birds I had the best success with Mallards by using my hunting-trained Chesapeake. When I came to a good-looking slough I would put the dog in the open water. The old birds would do a lot of squawking and flying around and the young birds would head for shore to hide in the long grass and I could chart their progress and location by the movement of the grass. As you know, a Chesapeake is a heavy, strong dog and if he does not pinion both wings properly a young bird is apt to flop around and injure himself. Instead of letting the dog catch the birds I used a long cane pole with a heavy ringed landing net on one end which I dropped over the grass and pinned the birds down. This plan of course worked best at mornings and evenings when there was little wind and in prairie districts where vegetation was sparse. My old dog, 'Beaver,' has long gone and I have given up duck shooting but I like to think of old times and learn what the boys are doing."

Records in the Canadian Wildlife Service Banding Office show that Mr. Martin banded 443 ducks between July 8 and 27, 1921. Nine were banded at Waterhen Lake, 91 on the Little Arm River near Findlater, and 348 at Findlater. The birds banded were 125 Pintails, 119 American Widgeon, 58 Blue-winged Teal, 55 Shovelers, 50 Mallards, 25 Scaup, 11 Canvasbacks (and 2 Coots).

Mr. Martin's efforts took place before government control of organized banding began working effectively in Canada. Mr. Martin used his own tags, apparently putting some on the legs and others on the wings. Nothing is known of the inscription he used, but he did get a few returns, even from the United States.

Field Identification of the Greater Scaup

by the late **Wendell Taber**

In studying "The Birds of the Saskatchewan River" I began to realize that Saskatchewan observers face somewhat the same problem that we face in Massachusetts—but in reverse. I am therefore sending some comments which may be of value in helping you to distinguish between the Greater Scaup and Lesser Scaup in the field.

The rule of thumb here is that the Greater Scaup is a salt-water bird and the Lesser Scaup is a fresh-water one. I rule out the much-quoted difference in the shape of the head of two species. (The head of the Greater is rounder, that of the Lesser more peaked). C. F. Batchelder's statement, "the difficulty often lies not in testing the observed facts but in dealing with the observer's mind" is too true. The head shape is useful only in making me investigate further. The one field mark that I accept is that of watching a male under perfect sunlight. If, after watching the bird move about for perhaps five minutes, turning its head this way and that, until I am satisfied that I have received reflection of color from every conceivable angle, I have NOT received a momentary flash of green, I accept the identification, as being a Lesser Scaup. The Greater Scaup often looks purplish at first, but sooner or later the sun hits exactly right and there is a flash of green. All this may be at a distance of 25 yards.

Gray Gladiator

by **Frank H. Brazier,** Regina

A Townsend's Solitaire (*Myadestes townsendi*), which was first observed in Regina in the Legislative Grounds on December 3, 1960, occasioned a great deal of interest by spending the winter in the city.* The bird was most often observed in the shrubbery behind the Legislative Buildings. Here a dense lilac thicket grows against the south wall, with rose bushes and honeysuckle at the west end surrounding an old Siberian crabapple tree. The crabapple entered this past winter loaded with its berry-like fruit, so that the bird had both food from the crabapple and shelter in the lilacs. To enhance an ideal spot, hot air from the vent of the restaurant in the Buildings modifies the air temperature, and a buried hot-water pipe passing from the power plant into the Buildings keeps a sizeable area of lawn free from snow. The Solitaire contentedly settled into this habitat which supplied all its winter needs—food and water (for I occasionally saw it eating quantities of snow from the lawn edge), shelter from the wind with a sunny exposure, and cover from our Pigeon Hawk (*Falco columbarius richardsonii*) which was regularly patrolling the neighbourhood, and a Prairie Falcon (*Falco mexicanus*) that roosted at the buildings during the winter.

I often saw the Solitaire perched on a twig about 18 inches from the ground protected from attack from the rear by overhanging shrubbery, basking in the sunshine which prevailed during the mild early winter. A sizeable pile of excrement which had accumulated under this favourite perch indicated that the main diet of the bird was crabapples.

Just before the cold weather really set in on January 20, Regina had been invaded by hordes of Bohemian Waxwings (*Bombycilla garrulus*), while ten Cedar Waxwings (*B. cedrorum*) had been seen on that day. I had occasion to drive by the Solitaire's domain during the mid-morning of January 26, a very cold day, and I found the even tenor of its ways rudely interrupted. The waxwings had found the Solitaire's pantry—a score or more Bohemians, three or four Cedars, and a lone Pine Grosbeak (*Pinicula enucleator*) had descended on its crabapple tree and were busily cramming in the crabs. The Solitaire reacted to this invasion with marked aggressiveness, no doubt recognizing the threat to its food supply. It darted between three lone perches, uttering harsh, scolding cries, and jerked its closed wings up over its back spasmodically. I suppose this could be a distraction mechanism. This behaviour was often interrupted when it dashed at nearby waxwings of both species, which invariably fled when assaulted; at such times it continued scolding, while it also fanned its tail. Twice it attacked waxwings well up in the tree but most of the attacks were on birds lower down and near its low perches. There were many waxwings in adjacent areas so that its efforts were frustrated—for every bird it drove into headlong flight two or three others would move in.

I watched the struggle for about fifteen minutes, and returned half an hour later. The situation remained unchanged except that the inroads made by the waxwings on the Solitaire's food supply were apparent. Undaunted, it continued scolding and attacking, but it could not stop their determined eating.

I drove by the tree again at 1.30 p.m. Our little gray gradiator was still at it, but the waxwings had mostly all gone, as had the fruit. I came by once more at 3.40 p.m.—the tree was bare and only a few waxwings (one Cedar) remained. The Solitaire was confining its efforts to protecting the dropped crabapples, noisily driving off such birds as essayed to feed on the fallen fruit. On occasion it would interrupt its harsh, scolding chatter with a musical flute-like call I had not heard before.

With the worst of the winter yet to come, and with its principal food store ravaged, I was concerned lest the Solitaire be forced to quit its territory in search of food, thus depriving us of the opportunity of observing a bird which had never before been

* Margaret Belcher, 1961. *Birds of Regina.* S.N.H.S. spec. publ. No. 3.

seen in Regina in winter. At 9.00 a.m. the next day I caught a glimpse of it flying away, and left a handful of cotoneaster berries on the ground. Later, at 1.30 p.m., I left some raisins and bits of apple. An hour later I saw it busily eating the raisins. I scattered a handful of currants around that evening. I saw it briefly Saturday morning (January 28) but a cold, strong wind blew directly on the site; I did not see it again that day although I returned several times.

On Sunday Elmer Fox succeeded in photographing the bird from a car parked nearby. It was a cold, windy day and perhaps for this reason the bird spent much time well under the shrubbery, picking up and eating shrivelled fallen crabs, only occasionally venturing into the open. During its stay I kept it supplied with currants which it took regularly, a few at a time. I did not get the impression it was very hungry.

Considerable snow fell at the end of January and the weather turned much colder with biting winds. The Solitaire maintained its position well but I received quite a shock on February 15. I had seen the Solitaire about 4.00 p.m. in active health, but when I drove down by the west end of the Legislative Building at 5.30 p.m. I noticed a scattering of feathers blowing across the snow. I stopped and looked under the gable and saw the Prairie Falcon on its accustomed perch for the night and concluded that the feathers were from a plucked victim. I gathered a few but as it was snowing and blowing strongly I could find nothing diagnostic. The next morning at 8.30 a.m. the Falcon was still on its roost and I was able to retrieve a casting at the foot of the wall. After drying it I showed it and the feathers to Dr. Nero at the Saskatchewan Museum of Natural History; he broke it up, found a small upper wing-bone (humerus) and a couple of grains of wheat which, with the feathers, indicated that the victim was a House Sparrow (*Passer domesticus*) and not our Townsend's Solitaire. I saw the Solitaire sunning itself the following day, and I continued to see it often and regularly thereafter until March 19, when I saw it there no more. The bird was last seen in this location on March 28 by Elmer Fox.

Sun-bathing in the Blackbird (*Turdus merula*)

by **Margaret Offen,** Southgate, England*

The Blackbird (*Turdus merula*) is much given to sun-bathing. I noticed this behaviour first in the garden last summer, and thought the bird was injured or ill, for it lay over on its side, wings outstretched and drooping, head sagging, beak open. When I went out to investigate, it quickly flew off, uttering its typical loud protesting call.

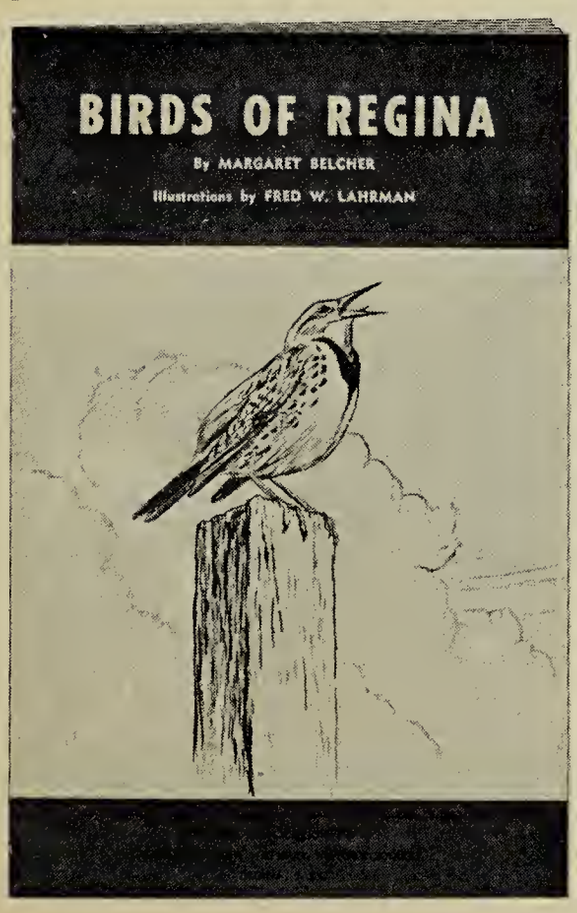
Since that day I have watched many Blackbirds sunning themselves. There are several very slight hollows in the lawn in the lee of two small fruit trees which seem to be the favored spots, although occasionally the cement walk is also used. As Mrs. Hauser observes in her article, the feathers are raised, wings spread, tail fanned out, beak open. The position is altered frequently, though the hotter the day the less the bather seems to move. I noticed that the birds indulged in prolonged and rather vigorous scratching of the head and neck also, and when they settle down again there is often a nestling, half-roll motion suggestive of dust bathing.

A number of times a female bird has been watched having a lengthy bath without water, dust or sun. In our rock garden on a flat spot there is an old photographic developing tray filled with water. Beside it, is a clump of Rose of Sharon (*Hypericum*) about seven inches high and very leafy. The bird comes and settles herself on the plant, which bends sufficiently to spread around her, and then she goes through all the motions of a real bath in water, dipping head and tail, fluttering the wings, bobbing, and shaking as if throwing water over herself. She will do this for long minutes at a time, hop out and have a drink from the water-filled tray (Blackbirds and House Sparrows seems to be perpetually thirsty), and return to her "bath."

There is no dew on the leaves when she comes, so I assume that she is indulging in a sort of dry cleaning. When she is finished she flies up into the plum tree to preen, the same as the Blackbirds who actually bathe.

* Formerly Margaret J. Cope, Calgary Bird Club.

Announcing S. N. H. S. Publication No. 3



The Saskatchewan Natural History Society announces the publication of the **Birds of Regina,** by Margaret Belcher, with illustrations by Fred W. Lahrman. This is a check-list of birds observed in an area 30 miles in diameter with the city of Regina as its centre. The description of the area shows that the district, commonly thought of as the "Regina Plains," contains some variety of habitat in the wooded creek valleys. A total of 266 species of birds has been listed on the basis of sight and specimen records from unpublished records, S.M.N.H. files, and field notes of professionals and amateurs in the area. This is not a field guide, and not every species is illustrated, but a series of black-and-white sketches by Museum artist Fred Lahrman adds greatly to the appeal of the book. Price: $1.00.

Available from: The Blue Jay Bookshop, Saskatchewan Natural History Society, Saskatchewan Museum of Natural History, Regina.

Marsh Felwort

Photo by W. C. McCalla.

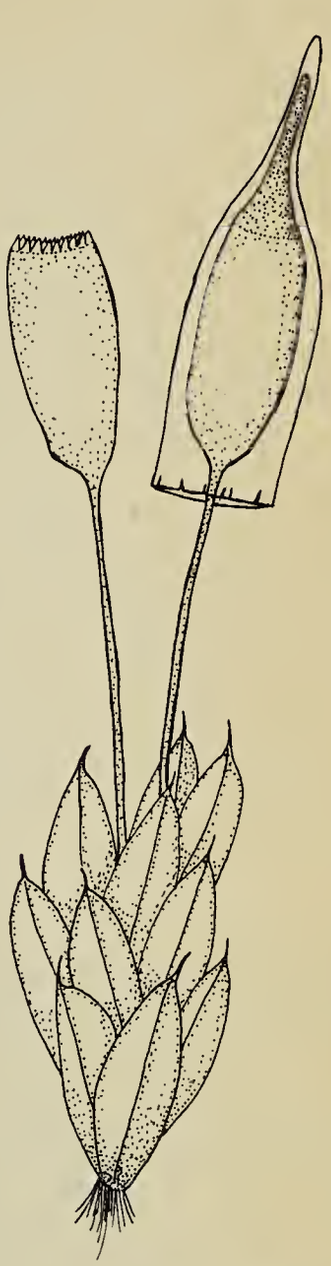
Lomatogonium rotatum (L.) Fries

The Marsh Felwort is a rare member of the Gentian Family. The flower is white. Dr. McCalla writes that he has had the good fortune to find it twice; once near Edmonton, and, years later, near Calgary, each time in rich grassland. McCalla's collections are both in the herbarium of the University of Alberta, Edmonton. Breitung lists only five alkaline flats or calcarious springy places for the Marsh Felwort in Saskatchewan.

Candle-snuffer Moss in the Prairies

by **C. D. Bird**, University of Alberta, Edmonton

The "candle-snuffer" moss is one of the easiest recognized of the hundred or so mosses which are found in the Canadian prairies. This is not because it is particularly large and imposing but rather because its lemon-yellow calyptra, a cap-like cover, completely encloses the capsule with the appearance of an old-time candle snuffer over a candle. The plant with capsule and calyptra stands about one centimeter high and has hair-tipped, glaucous-green leaves at its base. Under a microscope these leaves are seen to have a costa or midrib and are up to two millimeters long. The rusty-red capsule is furrowed when old and dry and has 16 lanceolate outer peristome teeth.



Drawing by Ann Bird

Encalypta rhabdocarpa Schwaegr. The capsule on the left shows the 16 outer peristome teeth while the one on the right has the operculum in place and is covered by the outline of the calyptra.

Eight species of *Encalypta,* or "candle-snuffer" moss, are reported in Grout's *Moss Flora of North America* (1928-1940). Conard's "Bryophytes of Saskatchewan" (*Bryologist* 60:338-343, 1947) mentions a single species, *Encalypta rhabdocarpa,* which he records only from the extreme northwest corner of the province. No species has been reported from the prairies of Manitoba, Saskatchewan, or Alberta. This does not mean the plants are rare but rather that very few collections have been made in the prairies. Personal studies, financed by the National Research Council of Canada, have turned up the following prairie stations of *Encalypta rhabdocarpa.*

SASKATCHEWAN — (1) Mixed with *Bryoerythrophyllum recurvirostre* on dry soil around granite boulders, steep, north-facing slope of Arm River, 2 miles southeast of Aylesbury, June 25, 1960 (Bird 3882). (2) Mixed with *Ceratodon purpureus* on north-facing gully slope, 2 miles southwest of Outlook, June 25, 1960 (Bird 3893 and 3899). (3) With *Brachythecium collinum* on north-facing ravine slope, 1 mile northwest of Ridpath, southwest of Rosetown, June 26, 1960 (Bird 3909). (4) On north-facing prairie slope, south side of Colbank Lake, east of Glidden, July 7, 1960 (Bird 4033).

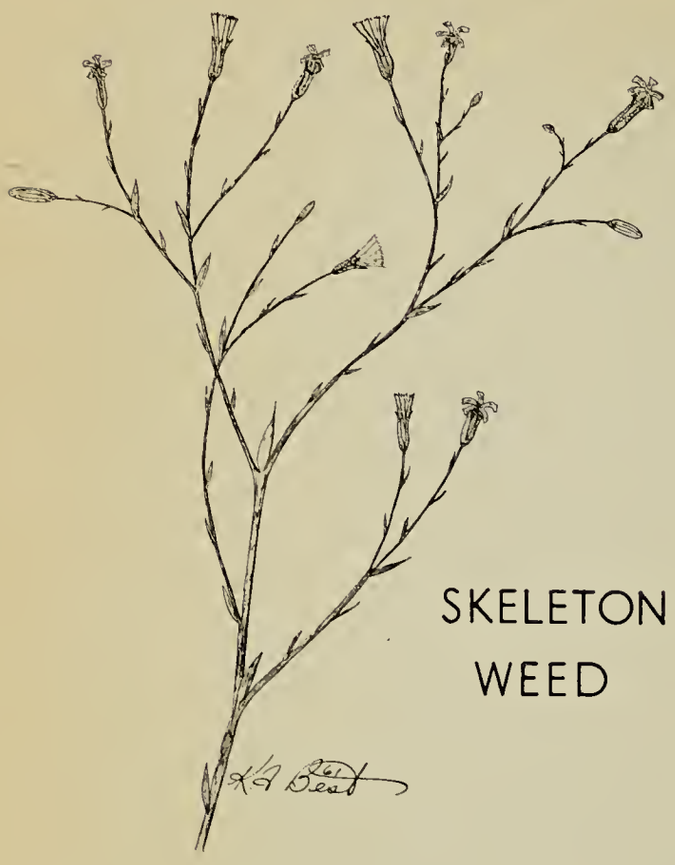
ALBERTA—(1) with *Hypnum* and *Bryoerythrophyllum recurvirostre* on soil around limestone outcrop, Carstairs Creek, 4 miles southeast of Carstairs, June 9, 1960 (Bird 3559). (2) Dry soil, bank of Fish Creek, beside Hwy. 2 near Midnapore, south of Calgary, June 10, 1960 (Bird (3582). (3) With *Eurhynchium pulchellum* var. *diversifolium* on dry, north-facing slope, Hwy. 5 crossing of Belly River, southwest of Lethbridge, June 11, 1960 (Bird 3640 and 3642). (4) On steep, north-facing prairie slope, 6 miles west of Walsh, July 12, 1960 (Bird 4072).

These collections indicate that the best places to look for this moss are on rather steep, north-facing slopes. **Snow** remains longer in these places and the soil moisture content is higher while the temperature is lower than on other exposures.

Another species, *Encalypta procera,* was discovered on the Alberta side of the Cypress Hills (Bird 4469). What species occur in your district?

Plants of the Sandhills

by **Keith F. Best,** Swift Current



Two additional species usually found growing in the sandhills are the Skeleton Weed and the Large-flowered Yellow Flax illustrated above.

Skeleton Weed (*Lygodesmia juncea*) is a native plant that has been well known as an obnoxious garden weed since the days of the early settlers. Since that time, it has become a pest in many cultivated fields and pastures. Also called Elk-horn or Devil's Shoe-string, it is a low growing, straggling perennial, from 6 to 18 inches high with the lower leaves narrow and stemlike, while the upper ones are few and reduced almost to scales. The plant contains a sticky juice and the long roots penetrate very deeply into the soil in search of moisture.

The flower heads of Skeleton Weed are borne singly on the ends of the stems. The flowers in these heads are all of the ray type and there are usually only five pink rays in each cluster. The fruits have a tuft of pale brownish hairs which aids in their dissemination.

The wiry nature, smallness of leaf surface, and the deep root system of the Skeleton Weed make it xerophitic or drought tolerant and it thrives even in the driest seasons and locations in this, its native habitat.

A member of the flax family, the Large-flowered Yellow Flax (*Linum rigidum*) is also a species of very light, sandy soil. It is somewhat similar to the Common Wild Flax (*Linum lewisii*), but it has yellow instead of blue flowers. This erect pale green perennial grows from 6 to 18 inches in height. The stem is simple below and somewhat branched above. The foliage is sparse. The leaves, from ⅓ to 1 inch long, are linear and are easily knocked off. The bright yellow flowers are about 1 inch across and the petals, as in most of the genus, are readily shed. A shorter, more branched plant with slightly smaller flowers, found in less sandy habitats, was formerly distinguished as *L. compactum* but is is now usually included in *L. rigidum*.

New Plant Records for Saskatchewan

by **John H. Hudson,** Saskatoon

Some new or little known plants turned up by me the last two summers are worth mentioning. In all cases duplicates have been deposited at the herbarium of the Dominion Department of Agriculture, Ottawa.

Polygonatum canaliculatum (Muhl) Pursh. Collected as #2066 on July 1, 1959, in hardwood forest in the Souris River valley on NE¼-11-2-7-W2, just south of Estevan. This denizen of the eastern hardwood forests looks much like Star-flowered Solomon's-seal (*Smilacina stellata*) but in height and leaf-width is twice as large. The greenish-white bell-shaped flowers are hidden underneath the broad leaves in long-stalked clusters of 2-4.

Sitanion hystrix (Nutt). J. G. Smith. Squirrel Tail. Collected as #2078 on August 24, 1959, on a dry, bare south-facing shaly slope on NW¼-21-11-29-W3, in the Box Elder Creek country south of Hatton. This has been reported only from Val Marie, but has likely been passed over elsewhere because of its marked likeness to Wild Barley (*Hordeum jubatum*).

Munroa squarrosa (Nutt.) Torr. False Buffalo Grass. Collected as #2082 on a dry, sandy roadside on SE¼-34-12-29-W3 on August 25, 1959, on old Highway #1 a mile and a half west of Hatton. There were fair quantities of the plant present. This was previously reported for Saskatchewan from the river valley near Saskatchewan Landing by Tisdale and Budd in the Canadian Field Naturalist 62, 174, 1948.

Eragrostis cilianensis (All) Link. Stinkgrass. Collected as #2088 in Estevan, September 17, 1960. It was growing as a rather rare street weed on dry city boulevards; my specimens came from the corner of 6th St. and 4th Ave. This has not been reported before from Saskatchewan as far as I know. However it is a common introduced weed in North Dakota according to Stevens (*Handbook of North Dakota Plants*), and has shown up in Manitoba, so an appearance at Estevan is not unexpected.

Photo by M. A. Welsh

BUNCHBERRY, *Cornus canadensis* **L.**

White Evening Primrose

Photo by L. T. Carmichael

The above photo of the White Evening Primrose, *Oenothera Nuttallii* Sweet, is one of the 173 photos in the 186-page book, **Prairie Wildflowers,** by L. T. Carmichael. The book printed in Canada this year is available for $3.10 in the **Blue Jay** Book Shop, Saskatchewan Museum of Natural History, Regina.

Each photo is accompanied by about half a page of text. For the White Evening Primrose Mr. Carmichael describes how the flowers close and turn pink in the heat of the afternoon. The flowers open in the late evening for pollination by the night-flying moths. They remain showy during most of the morning of the next day and then they begin to fade.

The flowers are arranged from Crocus Anemone and Leafy Musineon which open in early spring to the False Ragweed and Closed Gentian which are often conspicuous in the autumn. The photos, all in black and white, have frequently been badly bleached or otherwise poorly reproduced by the publishers but we have heard many favorable comments from people who have bought the book. Teachers and others casually interested in the identification of our wildflowers are finding the book of considerable help. Mr. Carmichael, our former **Blue Jay** editor, is to be congratulated for providing this much needed and interesting book on prairie wildflowers.

The **Annotated Catalogue of the Vascular Flora of Saskatchewan** which was published by August J. Breitung in the **American Midland Naturalist** in 1957 is now available in reprint form from the **Blue Jay** Book Shop. The booklet, 72 pages plus a 3-page supplement of additions and corrections, lists 1380 entities, including 204 introduced species, arranged by family. There is no index. Notes on each species are very brief but Breitung has examined specimens in various important herbaria in Canada and the United States to make this the most scientific and up-to-date listing of Saskatchewan plants available. Each botanist interested in the abundance and distribution of our plants should have a copy. Send one dollar to the **Blue Jay** Book Shop, Saskatchewan Museum of Natural History, Regina.

Types and Actions of Chemicals for Weed Control

by **Keith F. Best,** Swift Current

Over the past ten or fifteen years the chemical seed control industry has flourished and millions of dollars are spent annually on applications of various compounds to our fields, orchards and gardens. To keep abreast of all the new products being made available would be a full time job in itself. A summary of the kinds and actions of herbicides might be of some interest.

All herbicides sold in Canada must, under the Pest Control Products Act, be registered annually. The Act is administered by the Plant Products Division, Department of Agriculture, Ottawa. During 1956 there were 76 companies offering one or more chemical herbicides for sale in Canada. The number of weed killers registered was 350. In 1960 there were 87 companies registering 478 weed killers for the Canadian market. These chemicals may be classified in three main groups: the contact herbicides, the selective or systemic herbicides, and the soil sterilants.

Contact Herbicides

During the latter part of the nineteenth century, agricultural scientists found that some of the common chemicals could be used to kill weeds in the grain fields with a certain margin of safety to the crops. These belonged to the inorganic or mineral group and their action was to burn, corrode or poison plant tissue. They killed only those portions of the plants which they came in direct contact with and thus they became known as contact herbicides. They may cause severe damage to crops if the rates of application are too heavy.

Contact herbicides shrivel the proteins in the cells. There is practically no movement of the chemical away from the treated area. Chlorophyll is destroyed and if the spray pattern is poor, blotching of the leaves will result. Under favorable conditions the tops of affected plants show a rapid browning and crisping. Perennials will grow again from the roots. If annuals are not killed quickly they also survive and resume their growth. This is why limited crop damage after spraying with contact sprays may not have any lasting effects.

Selective or Systemic Herbicides

A selective herbicide is a chemical compound that is more toxic to one plant than to another. A systemic herbicide is a toxic substance which moves or is translocated within a plant.

Around the beginning of the present century, a worker, noting the large galls resulting from insect punctures on plants, concluded that something must have been added in the puncture to alter the cell structure in the area. The idea was born that formative functions of plants are controlled by specific substances, hormones, circulating in their tissues.

Hormone was first isolated from pollen grains in 1910. Since that time many hormones have been studied. Prior to 1942 all of the hormone work involved the promoting and regulating of growth in plants with usually beneficial results. With the finding of 2,4-D acid in some of the hormones two years of private investigations were undertaken and in 1944 the new wonder weed killer was officially born, the first hormone or systemic herbicide.

The selective herbicides contain many other compounds besides 2,4-D and each one possesses a somewhat different mode of action. They all injure and finally kill susceptible plants by causing the distortion of tissues. If a chemical translocates well then a little bit goes a long way and a low volume spray can be used.

The translocated herbicides are most effective on the new, actively growing parts of the plants. Foliage treatments should be done when annual weeds are tender. Perennial weeds are often more sensitive at the time of flowering when their root reserves are low and they have more difficulty in producing new shoots to replace the damaged ones. Although not a complete control, sel-

ective sprays will usually retard growth of perennial weeds in crops and prevent the formation of seed.

Variations in plant structure influence the penetration of selective killers when they are applied as a foliage spray. Many leaves have a waxy covering on the upper surface and, as water is shed from a duck, any solution tends to run off unless a wetting or sticking agent is added. Deflecting leaf hairs, relatively few pores on the upper surface of the leaves, and corky layers greatly hinder the penetration of sprays. Where leaves arise sharply from the stem, as in cereals, the solutions run off too quickly for good penetration. Since roots do not have the waxy cuticle they can absorb the chemical even when it has not been emulsified.

The chemical 2,4-D comes in three basic formulations, esters, amines, and sodium salts. Of these the esters are generally the strongest. They must be dissolved in oil and must be either emulsified in water with the aid of a stabilizing emulsifying agent for ground sprays or be mixed with diesel oil for aircraft applications. The esters are more toxic because they are more volatile, which allows them to get into the plant through its pores, and to spread to other areas that might have been missed by the spray. Low volatile esters are made with heavier alcohols and they are better where sprayings must be done near sensitive plants.

Translocated herbicides work slowly, particularly during cool, dry weather. Plant enzymes of susceptible plants may change the chemical to poison or the herbicide may stop or alter some step in the plant metabolism. The heredity mechanism may also be upset. Affected cells either stop dividing to make new growth and stunting results, or they divide too fast causing twisting and bending. When the chemical in the plant becomes weaker, it often causes the plant to send out roots in unusual places. Uneven growth may split the stem and microorganisms can readily gain entry and decomposition sets in. Amino triazole induces starvation in the plant by destroying the chlorophyll. Some or all of these symptoms may be produced by 2,4-D and its relatives.

One of the most difficult problems is the treating of annual weeds in annual crops through soil applications for selective control. This becomes necessary where we have annual weeds that cannot be sprayed in the growing crop lest damage result. Here the chemicals are applied before the weeds or the crop come up. This pre-emergence treatment is intended to kill the germinating weed seeds without harming the sprouting crop. The effects may last long enough to kill weeds which germinate after the crop is up. The important factors with this type of control are adequate moisture and the proper placing of the chemical. Too much moisture may leach the chemical out of the soil while too little may permit the weeds to get a good start from their place in moister soil below. At present there is a narrow safety margin in selective soil treatments between the amount required to do a proper job on the weeds and the amount that is safe for the crop.

Soil Sterilants

The third main group of chemicals is classed as soil sterilants. During the last war a native from one of the islands of the South Pacific, when asked if the Americans were better jungle fighters than the Japanese, replied that the Americans just removed the jungles. That is what happens with the soil sterilants, they remove all plants. However, some of the long-term soil sterilants like sodium chlorate, the borates, and monuron (CMU) show a certain degree of selectivity at lower rates for some annuals and perennials. Under certain conditions some eliminate the grasses while leaving the broad-leaved plants, others remove the forbs and spare the grasses.

The effectiveness of these chemicals may be influenced by type of soil and rainfall so that retreatment may be necessary. Applications for the control of perennial weeds are usually made in the fall, treatments for annual weeds are usually made in the spring. Dead growth and all plants over eight inches in height should be removed before treatment so that the chemicals can enter the soil rapidly. Soil sterilants may kill trees and shrubs if their roots extend under the treated area and thus come in contact with the herbicide as it penetrates the soil.

JUNIOR NATURALISTS

Edited by **Joyce Dew,** Saskatchewan Museum of Natural History

Sketches by Brian Irving, age 11, Kelvington.

DRAWING CONTEST WINNER

The prize for the drawing contest goes to Brian Irving, age 11, of Kelvington. Brian sent in six drawings —two of which are published here. We are pleased to see that Brian can draw plants as well as birds and hope he keeps up the good work.

Due to general lack of response to these special contests they are being discontinued for the time being. If you are interested in having more contests such as the drawing contest, name the bird contest, and fact finding contest, let us hear from you.

LETTER WRITING CONTEST

Any boy or girl 16 years old and under may enter. Entries must be first-hand observations and not something copied from a book or other source. All entries must be accompanied by the name, age, and address of the sender. Send entries to Miss Joyce Dew, Saskatchewan Museum of Natural History, Regina, to arrive not later than October 15. Prizes which are awarded according to age include Audubon bird calls and magazine subscriptions.

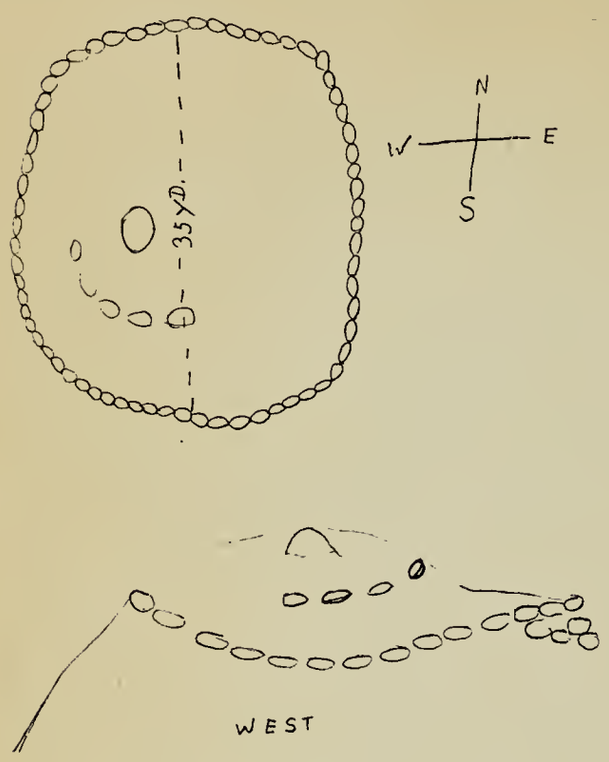
BEST LETTER

Usually an account of nests and birds seen makes rather dull reading since it so often is just a list of what was seen. However, Gloria Tommila has written a delightful account of her nest observations and has made them come alive by noting the behaviour of the different birds at their nests. Congratulations, Gloria! We will be looking forward to hearing more from you.

MEADOWLARK'S NEST

by **Mary Koziol,** Benito, Manitoba

On May 23 the pupils of Thunderbird School saw six eggs in a nest in their school yard. The nest was made of grass over the eggs. Mother Meadowlark fluttered out of the tunnel as if she had a broken wing every time we went there. May 31 found the first egg hatched. The other brown speckled eggs were hatched on June 2. One egg didn't hatch so the mother bird threw it away. We didn't see the Father Meadowlark but we hear him singing in the treetops. Mother Meadowlark had a day off on June 6 because it was so hot that the baby birds were panting. Soon the baby birds will have their first lesson from their parents and will be able to fly and hunt for their own food.



STONE CIRCLE DISCOVERED

by **Frederick W. Gase**, Hearne

In the hills near our home is a hill with a large ring of stones around the top. It is about 35 yards in diameter and about 325 feet in circumference. The centre of the circle has been cleared except one large stone near the centre and five in a semi-circle to the southwest of the central stone.

NOTE: We asked Mr. T. Kehoe, museum archaeologist, about this and he tells us the origin of these rings is not known. The ring is too large to be a tipi ring. It is possible that it is a ring of stones from a sun dance lodge.

GARDENING, BUFFALO BONES AND ARTIFACTS

by **Corinne Goodwin**, age 11, Trossachs

One day this summer after a heavy rain we kids went out to weed the garden and found out why grown-ups think gardening is an interesting hobby.

We found over twenty pieces of brown chalcedony and three of them were arrow heads.

And when we got to the cucumber patch we found several pieces of clay pottery. One piece has a fluted edge and it is all ridged on one side and smooth on the other. Some of it is quite black and some is grey. It is all very strong. I can't break it, nor will it dissolve in water.

We also found two black beads that look quite old. One looks as if it is cut from wood. And the other is a flat black bead with copper wire inside, likely left by the pioneers.

We find lots of buffalo bones in our garden, too. We saved the skull and were told it belonged to a wood bison.

We have fifteen stone-hammers and twenty spear and arrow heads that we've picked up around home.

I would like to know more about the pottery, especially. Who made it, and is it very old?

Finding Indian stones makes gardening so much more fun.

COLOR CHANGES IN FROGS

by **Mike Rhodes**, Moose Jaw

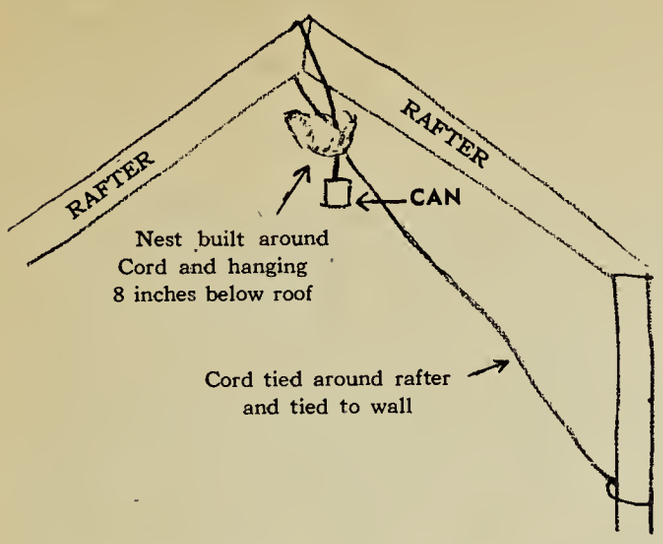
While attending the meeting of the Saskatchewan Natural History Society, Allan Wade and I had already filled our jars with butterflies by the time we arrived at Sandy Lake. So we turned to collecting frogs and toads for Mr. Cook, the Curator of Herpetology at the National Museum of Canada in Ottawa, Ontario.

After about ten minutes of collecting we had about twelve specimens comprising two species, Wood Frog *Rana sylvatica* and Dakota Toad *Bufo hemiophrys*. The two Wood Frogs were all black.

Later when we were in camp showing Mr. Cook our frogs we found that we had the same number of specimens but nowhere could we find the black ones. Mr. Cook, to our surprise, told us that these Wood Frogs were capable of color changes which go from almost black to white.

This was the first time I realized that Frogs could change color.

NOTE: Francis Cook has been in the province this spring and summer doing a survey of the reptiles and amphibians in the area.



BARN SWALLOW NEST

by **Shirley Anderson,** age 12, Rocanville

Last spring while cleaning out their playhouse, my brother and sister put up two cords one at each end of the building and attached a can to each of them for make-believe lights.

One day we discovered the barn swallows had decided to build a nest around one of the cords. They nested there and had three or four babies. One fell out so we had to tie the nest up more securely.

For their second nest the swallows started building right on top of the other can.

I hope they are successful in raising their brood in such an unusual location.

MY BIRD STORY

by **Gloria Tommila,** age 10, Elma, Manitoba

I am a great nature lover and enjoy reading the **Blue Jay,** especially the Junior Naturalists' Section. I want to tell you about all the birds and their nests around our place. Every time I stroll around it seems as if I find a new nest, some in trees high up and others close to the ground.

The most peace-loving bird is the Cedar Waxwing, hardly ever making a sound, and I can go right up to their nest and the mother bird does not fly off.

In a wild plum tree located in our yard, my sister put up a bird house last year. It was occupied by a pair of Tree Swallows right away. This summer they came back again and raised two broods. In the same tree just a few feet away a pair of Cedar Waxwings had a nest. They never quarrelled, so they seem to get along better than people.

In our barnyard buildings there are nests of Barn Swallows. There are six or seven nests. Graceful they are when they fly around for insects. When they sit on the wires they seem to be having a speaking contest.

There are two nests of Kingbirds in our yard. My they're cranky birds! When anyone goes by their nest they start scolding.

After much effort I discovered an oriole's nest high up in our tree. They come back every summer. Such lovely birds!

Robins are here every year and raise two broods. It's interesting to watch them pull earthworms out of the lawn.

Yellow Warblers nest in our lilac trees each year. This summer on a very windy day I saw how the baby birds had to hang on with their toe nails for dear life.

Many years ago Mom put a metal box up in a tree and each year a pair of wrens use it for a nest. The male bird sits high in a tree and sings his heart out. They are very excited when the young come.

Last September my sister brought a Red-breasted Nuthatch into the house. We gave it some crumbs and let it go. It flew away to its nest.

The Killdeers are poor nest builders. They just pick a hollow in the ground, put in a few straws and feathers and it serves the purpose. The little baby Killdeers look so cute when they run around on their two little "match sticks."

There are many other birds about our farm but I can't name them all. But I get many joyful moments watching them.

SPARROWS PESTERING WRENS

by **Audrey Carpenter,** age 11, Broadview

At my home we have eight bird houses, most of them for wrens. On the afternoon of May 24, I saw the two House Sparrows who were always pestering the wrens in our yard. They went to one of the wren's bird houses. One sparrow would try to get in, then it would fly to a branch. The other sparrow then would try to get in. The wren was sitting on a branch helplessly. When the sparrows flew away, the wren would hurry and get in before they came back.

WHAT WE SAW ON OUR NATURE HIKE

by **Lydia Koziol,** Benito, Manitoba

The pupils of Thunderbird School went for a nature hike on Friday afternoon, June 2, 1961. We first went to the river. We had a time going through the thorns and shrub trees at first, but afterwards found we had a little path that led to the river. In the river there are so many stones that you can walk across. There is such a big stone there, about five people can sit on it.

We went farther into the river, when suddenly the boys started shouting "Crayfish, Crayfish." I ran there quickly over the stones and all and there was a live crayfish, swimming in the river. It was quite a large-sized crayfish. After that we started collecting shells. When I picked up a shell, there was a little crayfish in it, and oh, how scared I was after that.

We wanted to learn more things about the river, so we took our socks and shoes off, rolled up our pants, and went into the water, which is shallow. While we were going into the water, we saw a little raft. We went there to see what was there and guess what, there was nothing but little crayfish there.

We decided to go back to the shore, so we started off. I stepped on a stone and looked at my foot and there was a large crayfish relaxing on my foot. When we got closer to the shore, Barbara caught a toad. She let go of it, but then Billy Hadiken stepped forward and caught the toad. We looked closely at it, but it leapt out of Billy's hand. We decided we should have a little lunch, but no sooner had we started going, then Billy caught a crayfish and put it in a can. Then we started off and Billy caught another crayfish which we put in the large empty shell.

As soon as we were getting ready to eat, Lorne Allen came up with a small fish in his hands. Mildred Popoff had a jar so we filled the jar with water, and put the fish into it. We left it on the ground, and somebody went and spilled the water out, so the fish died. Then we went back to the river and found a live clam.

Then teacher said we had to go home. When we were going home our teacher, Mrs. Coe, picked up all kinds of leaves and shrubs. We took them to school and pressed the plants and mounted them on a chart. This is the first time I've seen so many things on a hike.

A FOXY ADVENTURE

by the pupils of Blue Jay School, Carrot River

We have a fox den in our bushes behind Blue Jay School. There have been foxes there for the last year or two. They visited nearby farm yards and stole chickens. Different people tried to shoot them but the foxes were too sly. They seem to have a circuit that they follow and we often see them.

Some of the boys decided to find the den and drown the foxes out. They poured three barrels of water down the hole, but it didn't reach the foxes, so they decided to dig them out. They started at one hole and dug for a ways. The foxes weren't in there, so they started a distance from the hole. They didn't find them there either, so they started at another place and followed a tunnel. As they kept digging they heard them barking and growling. They pulled each one out by a hind leg and tail and put it in a sack so it would not bite. They pulled out six young ones. The old one was not there at the time.

Each little fox was about twelve inches long including its tail. They were little reddish-brown animals with black-pointed noses. Their dark eyes shone like a cat's eyes. They stood about six inches high on short legs. They had bushy tails somewhat like a squirrel's tail, but not as long.

After carrying them home in a sack, they were put into a wagon box covered with boards and chicken wire. We tried to feed them milk and bread. They left the milk and ate a little bread.

The third morning after their capture we went to give them some fresh warm milk, but the box was empty. There was a hole in the chicken wire about six or seven inches long. It seemed that the mother fox had come in the night and rescued her young.

That morning the school boys followed the tracks about a mile from the den and found no sight of a fox, but lots of tracks. They missed hearing the school bell that morning.

Notes on Behaviour of a Marten in Saskatchewan

by **George W. Scotter,** Canadian Wildlife Service, Edmonton

Photo by Canadian Wildlife Service

While studying the effects of forest fires on the barren range of barren-ground caribou, *Rangifer arcticus,* at Chipman Lake in northern Saskatchewan, L. E. Erickson and the writer made a chance observation on the behaviour of the elusive and seldom seen marten, *Martes americana.* When we were leaving our tent which was situated in a mature black spruce, *Picea mariana,* forest, a marten with its distinctive orange throat patch was seen travelling down a game trail towards and about 200 yards from camp. Upon discovering the observers the marten dashed hurriedly up the trail and retreated under a pile of boulders. This marten demonstrated shyness, not "curiosity" or "wary, but unalarmed" behaviour as recorded by Yeager and Remington **J. Mamm.,** 37:521-524, 1956), Halvorsen (**J. Mamm.,** 42:111-112, 1961) or Manville (**J. Mamm.,** 112, 1961). This sighting was made at 7.20 a.m. on August 29, 1960. Skies were overcast and the temperature was near 50° F.

Use of a boulder pile for escape cover by this arboreal mammal appears to be uncommon although not unreported. Lechleitner (**Mammals of Glacier National Park,** 1955) reported trees were commonly used as avenues for marten retreats in Glacier National Park.

Two days previous to this observation a Chipewyan Indian shot a moose calf near our camp and left the largest portion of a hind leg for our use. After cutting the meat into steak and stew pieces, it was placed in a covered container and stored near camp. On returning from our field work, we discovered that the meat and femur bone which had been placed in a nearby tree had been taken. Bread, bacon and other easily accessible food stuffs had not been disturbed. Presumably the marten seen near camp next morning had purloined meat and bone during our absence which extended from 7.15 a.m. to 7.40 p.m. A marten probably could not eat more than its own weight in meat so a cache may have been established for future use.

The marten observation and probable theft of moose meat by a marten indicates at least some diurnal activity. Some authorities have claimed marten are nocturnal, while others feel they are diurnal. Daytime activity may increase with climatic changes of the fall season.

The Green Snake and Red-bellied Snake in Saskatchewan

by **Francis R. Cook,** National Museum of Canada, Ottawa, and
Robert W. Nero, Saskatchewan Museum of Natural History, Regina

Photo by *F. Lahrman,* M.M.N.H.
Smooth Green Snake

Although Saskatchewan has only eight species of snakes, accurate knowledge of their distribution is still incomplete. The two smallest, the Green Snake (*Opheodrys vernalis*) and the Red-bellied Snake (*Storeria occipitomaculata*) are perhaps the least known of all. Both have been occasionally collected in the province but no definite localities have been recorded in the **Blue Jay.** Logier and Toner (1961) were the first authorities to cite the Saskatchewan records which have been gradually accumulating, based mainly on Saskatchewan Museum of Natural History specimens. Previous range maps of these species had omitted Saskatchewan for both (Logier and Toner, 1955) or plotted only the extreme southeast corner of the province for the Green Snake and omitted the Red-bellied Snake (Conant, 1958).

A recent collection of the Green Snake, extending its range in Canada to mid-Saskatchewan, has emphasized this lack and prompted the authors to draw together the following notes on identification, habitat and distribution. It is hoped that readers will be alerted for these species and report new records. Specimens are also needed as too few are available to permit a thorough understanding of the variation within the province for either species.

The Red-bellied Snake is brown, gray or black above, usually with a lighter stripe down the centre of the back and two darker lines parallel to it on each side. One specimen collected in Manitoba last summer had a light brown centre stripe and grey sides. This color phase may also occur in Saskatchewan. All Saskatchewan specimens seen to date have rust-brown sides and a lighter mid-dorsal stripe. Regardless of the color variation on the back and sides individuals may always be identified by their bright red underside and the presence of three yellow spots on the neck.

In some areas where it occurs this species is called the "copper snake" and regarded as very poisonous. This, however, is pure fancy. In the Canadian prairies the only poisonous species is the Prairie Rattlesnake which may be identified by the rattles on the tail.

Red-bellied Snakes do not exceed one and a half feet in length, and most specimens are much smaller. Saskatchewan examples ranged from nine and a half to ten inches. It is primarily a snake of woodlands, oc-

Distribution of the Green Snake (*Opheodrys vernalis*) and the Red-bellied Snake (*Storeria occipitomaculata*). Open circles are localities for the Green Snake, closed circles localities for the Red-bellied Snake. Half open circles are localities where both species have been rcorded.

curring over most of southeastern Canada and the eastern United States. Few are seen in the open, but individuals may often be collected under boards, stones and similar cover.

Logier and Toner (1961, p. 64) record the species from Crooked Lake, Grenfell, Hazelcliffe and Langenburg on the basis of specimens in the Saskatchewan Museum of Natural History and the University of Saskatchewan collection.

The Green Snake is bright green above and white or yellowish below. It is only slightly larger than the Red-bellied Snake, rarely reaching two feet in total length. Saskatchewan specimens vary from eleven to sixteen inches.

Two subspecies are recognized, an eastern form, *Opheodrys vernalis vernalis,* which has 130 or fewer ventral scales in males, 139 or fewer in females; and a western form, *Opheodrys vernalis blanchardi* which has a higher ventral scale count. Saskatchewan individuals examined had counts of 129 and 130 for males and 136, 138 and 142 for females. Manitoba specimens having similar intermediate counts were considered intergrades between the two subspecies by Grobman (1941). At least until more specimens are available, Saskatchewan individuals are best placed in the same category. Logier and Toner (1961, p. 76) regarded the Saskatchewan form as *O. v. blanchardi* on the basis of geographic range, but had not examined the existing specimens.

The Green Snake is a snake of moist grasslands and is absent in arid regions. Owing to its protective coloration it is rarely seen in the open, but may be found under various suitable cover as in the preceding species.

The known western limit of the Green Snake in Canada was established by a specimen collected by Mr. Glenford Bellrose of Coronach. It was taken on July 12, 1960, on the SE ¼-13-2-27 W2, near the doorstep of a farmhouse. The area surrounding the farmyard is cultivated farmland and one-half mile east of the farm is pasture land with a creek flowing through it. Another specimen was reported by Mr. Bellrose on the NE ¼-30-2-25 W2 in the same type of area, beside a spring where water is available at all times.

Locality records cited by Logier and Toner (1961, p. 76) are Ceylon, Crooked Lake, Katepwa Beach, North Portal, and Roche Percee and are based on specimens in the Saskatchewan Museum of Natural History and National Museum of Canada. Additional specimens from Indian Head, Round Lake, and Whitewood are recorded by the Saskatchewan Museum of Natural History.

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Phyllopod Crustaceans

by **Hugh McLaughlin,** Lewvan

"Phyllopod crustaceans are among the most graceful and attractive inhabitants of fresh water pools." So begins a chapter on this group of crustaceans in **Fresh Water Biology** by Ward and Whipple. I would suggest that introduction to this type of water life begin on hands and knees beside a roadside ditch in early spring. Fairy Shrimp will be there and can be depended on to fascinate any student of nature.

Crustaceans are essentially aquatic arthropods. The name tells that they are chitinous-armoured creatures with jointed legs. The higher crustaceans, including the lobsters and crayfish, are grouped together as the Malacostraca. The smaller crustacea may be grouped together as the Entomostraca. Among the most primitive and most fascinating of the Entomostraca are the Phyllopoda or Branchiopoda, the gill-footed crustacea. The leaf-life appendages serve both for locomotion and for breathing

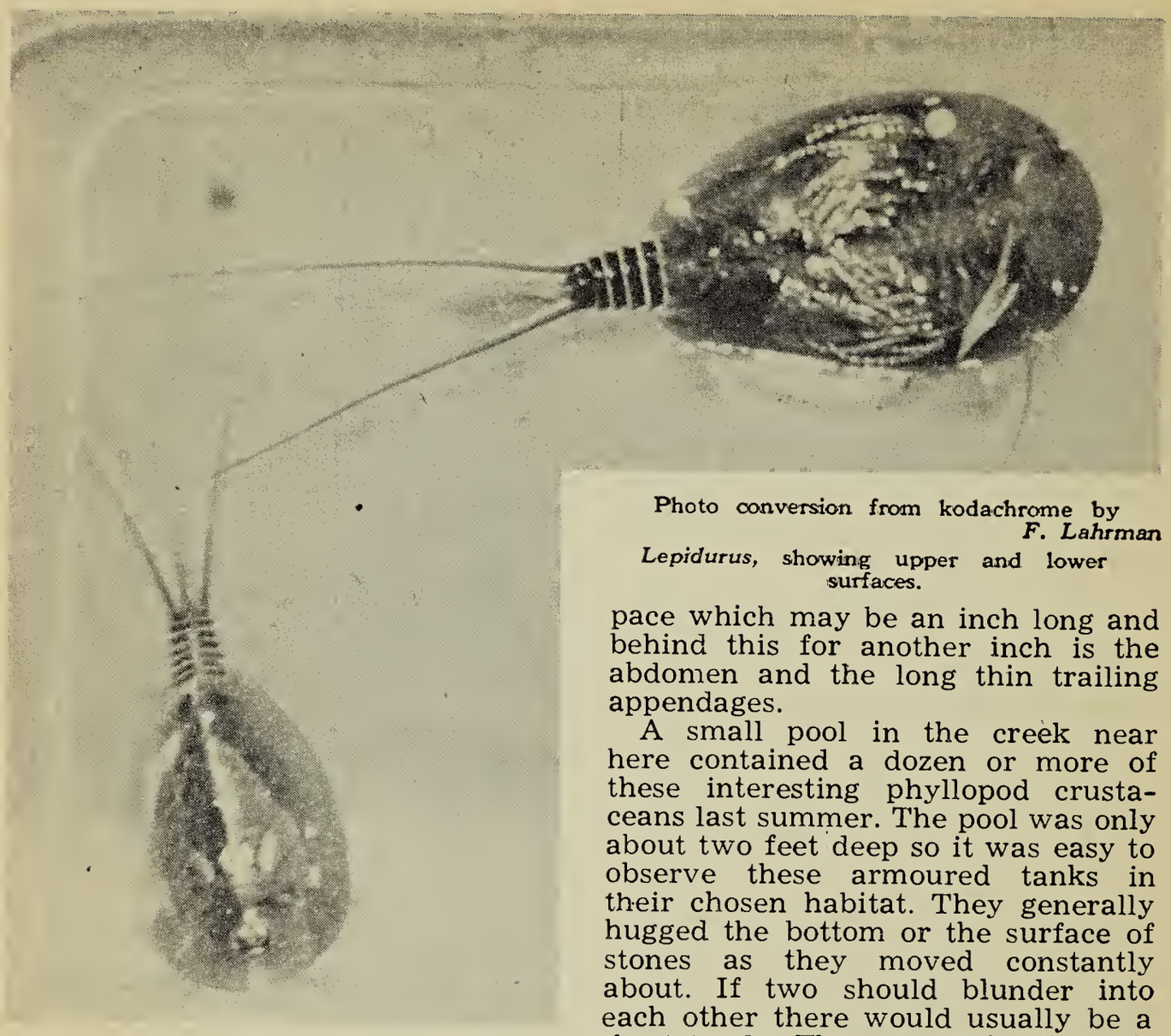

Photo conversion from kodachrome by *F. Lahrman*

Lepidurus, showing upper and lower surfaces.

and they may also play some part in chewing and directing food to the mouth.

Almost any ditch in early spring will contain Fairy Shrimp, *Eubranchipus*. Fairy Shrimp hatch from eggs which have been subjected to the drying and freezing of the previous summer and winter. The eggs seem to require this treatment before hatching. The eggs may be distributed by wind and they may survive several years of drought. Fairy Shrimp usually swim on their backs with their feathery legs rowing them along while they feed on minute plant life.

Fairy Shrimp reach a length of about three quarters of an inch. A flashlight shining into the water at night will bring a gathering of Fairy Shrimp to mill about in the brightness. I have collected Fairy Shrimp as late as July 21 so they may linger quite late into summer.

The Fairy Shrimp is large compared to most of the Entomostraca but *Lepidurus* is even larger. *Lepidurus* has a flattened shell or carapace which may be an inch long and behind this for another inch is the abdomen and the long thin trailing appendages.

A small pool in the creek near here contained a dozen or more of these interesting phyllopod crustaceans last summer. The pool was only about two feet deep so it was easy to observe these armoured tanks in their chosen habitat. They generally hugged the bottom or the surface of stones as they moved constantly about. If two should blunder into each other there would usually be a short tussle. They can swim through the open water, too, but they are mostly bottom feeders. As they grow the shell is shed and it floats on the surface of the water as a translucent brown case. The specimens, illustrated above, which were captured on June 5, had both shed their exoskeletons by June 14. The picture shows the under side of the large one while the smaller one is shown right side up. These two specimens lived in the aquarium until June 29.

Lepidurus may clamber about on plants in the water. I have watched them cling closely to bridge timbers in the creek, possibly browsing on algae. By mid-summer the water is glutted with weeds and phyllopod crustaceans are absent or no longer abundant, though I did find one *Lepidurus* as late as July 21. Now the smell of mint and freshly cut hay is heavy in the air, and the soft sounds of tree crickets, katydids and grasshoppers assail the ears. However, when spring returns we will be watching again for *Lepidurus* and other smaller Crustacea.

The Avonlea Projectile Point

by **Thomas F. Kehoe** and **Bruce A. McCorquodale,**
Saskatchewan Museum of Natural History

It is only recently that detailed analyses have been made of the small, triangular, side-notched projectile points characteristic of the Late Prehistoric Period (approximately A.D. 400-1750) in the Northern Plains. When the sequence of these small points in stratified sites is examined, however, it becomes apparent that in Saskatchewan, especially, the beginning of the sequence is marked by the presence of a thin, delicate type of point that has come to be known as an "Avonlea point."

The point type is named after the type site of Avonlea, in south-central Saskatchewan, where the points are found unmixed with other types. This site was visited in October, 1956, by McCorquodale and A. E. Swanston, staff members of the Saskatchewan Museum of Natural History, under the guidance of the late Alan J. Hudson of Mortlach. The party tested on a knoll in a small valley: this knoll appeared to be a part of a bison drive site. A blown field near the knoll yielded a surface collection of points of several periods, early and late, as well as a large pottery vessel, but the lack of stratification in the field made it impossible to determine either the local sequence of points or the period to which the pottery belonged.

The distribution of Avonlea points covers 450 miles, east-west. These points occur, on the east, near Melfort, Indian Head, and in the Long Creek site excavated by Wettlaufer and Mayer-Oakes in 1957. On the west, Avonlea points have been found near Fort Macleod, Alberta, and near Shelby, Montana. The center of the point's distribution is in southwestern Saskatchewan, and sites in this locality have produced what appear to be the earliest Avonlea points, plus later, degenerate forms of this point. The Saskatchewan Museum's work at the Gull Lake Bison Drive site, in the southwest of the province, promises to contribute a definite sequence of small side-notched triangular points for this region. Tests by Wettlaufer at the Gull Lake site in 1953 resulted in a series of Avonlea points, and full-scale excavations begun by Kehoe in 1960 have been adding to our knowledge of this period and the succeeding one.

The region in which Avonlea points occur has been glaciated, so that the terrain varies from gently undulating ground moraine to end moraine with hills and ponds. The drainage system of this region is poorly established, with meltwater channels carrying off only a very small part of the precipitation. Most of the run-off remains in the numerous ponds (glacial kettles), which lack outlets.

The Missouri Coteau, a prominent but discontinuous line of hills, runs through the region, with short-grass prairie steppe lying above and to the west of the Coteau. Local deposits of Tertiary gravels have resulted in smaller, higher plateaus resting on this steppe, the gravels protecting the softer Tertiary and Cretaceous sands and clays beneath from erosion. Meltwater streams have carved deep, steep-sided coulees on the edges of the steeper escarpments.

Particularly in the central portion of Avonlea points' distribution, summers are hot and dry, winters are cold, dry, but relieved by mild spells ("chinooks"), and conditions are generally arid. The aridity prevents establishment of trees, except in the highest or best-watered locations, although marsh grasses grow profusely in the many ponds. The climate was excellent for bison, and the topography ideal for the communal methods of bison hunting through driving and corralling.

An examination made by the authors of 176 Avonlea points from sites throughout the Avonlea range defined the point type in the following terms: The Avonlea is a very delicate point, made on a thin flake. Workmanship is excellent, with flake scars broad and shallow and both faces usually entirely dressed. Side notches on the triangular point are small, shallow, but fairly wide, and placed extremely low on the blade. These notches are V or U-shaped, never rectangular; they are equidistant from the base and symmetrically opposed. Ninety-nine per cent of the notches begin three millimetres or less from the base of the point. The

The Avonlea Projectile Point

Avonlea points: 1-4, Long Creek site; 5-8, Cherry Lake site; 9-10, Kyle site; 11-17, surface finds at Gull Lake site; 18-25, 45" to 53" at Gull Lake; 26-34, 53" to 64" at Gull Lake; 34-45, Avonlea site; 46-51, McLean site; 52-55, Bakken-Wright site layer; 56-65, Rinehardt site.

edges of the blade are regular and often finely serrated. Bases may be wider than, equal to; or less than the proximal end of the blade, but most of the bases are concave; some are straight, but none are convex. The corners of the base are rounded, and small projecting ears are common. Seventy-eight per cent of all bases are very lightly ground.

Length of specimens range from 12.0 mm. to 38.0 mm., averaging 20.8 mm. Width ranges from 9.0 to 18.5 mm., averaging 13.4 mm. Thickness ranges from 2.0 to 4.0 mm., averaging 2.47 mm. The average length-width ratio is 1.5:1; average width-thickness ratio 5.6:1. The average weight is 0.68 gms., with the range between 0.2 to 1.8 gms.

Flint, chert, and quartzite are the principal minerals used for Avonlea points. The dark brown, "Knife River flint" (brown chalcedony) preferred by other Saskatchewan aboriginal peoples does not seem to have been available to the Avonlea point makers, although the chalcedony quarries in North Dakota were not so greatly distant.

A sample of charcoal collected by McCorquodale on October 1, 1956, from the Avonlea site, test pit 1, was radio-carbon dated by the University of Saskatchewan (Sample S-45) and gave an age of 1500±100 years; that is the Avonlea points date from approximately 460 A.D. In stratigraphic excavations at bison kills, Avonlea appears deep beneath the surface, under the cruder types of small, triangular, side-notched points. We believe that the Avonlea complex is probably pre-ceramic, because we have not seen any indubitable associations of Avonlea points with pottery, although there are examples of Avonleas with sherds in disturbed or in poorly-stratified deposits.

The relationships of Avonlea points to preceding types is at present unclear. The Avonlea most closely resemble in outline the larger, but much cruder and much earlier (5200 ± 130 years old by radiocarbon) projectile points found at the Oxbow Dam site (Nero and McCorquodale 1958). The fine workmanship on Avonlea points is paralleled in the quality of Pelican Lake points found at the Long Creek site (Wettlaufer, 1960), but the Pelican Lakes not only are 800 years earlier than the Avonlea, but also bear little other detailed resemblance. Very few of the points that succeed Avonlea in time, either, show form or workmanship similar to that of Avonlea, except in broad terms.

If we may be permitted to indulge in speculation, we would like to note that the correlation of Avonlea point distribution with the distribution of glaciated "knob-and-kettle" topography appears to us to be significant. This topography would favor a dependence upon communal bison drives in the aboriginal population. In bison drives, the herd was stampeded into a corral, natural or artificial (often, but not necessarily, over a steep drop). Once in the corral, the wildly milling animals were despatched at close range by arrows. Now, under these conditions the best type of arrowpoint would have been a small, thin, sharp-edged point with deep penetration; there was no need for large, heavy points giving accuracy and good impact over a distance. The Avonlea point would thus have been more suitable for a people who usually slaughtered their meat after driving it into a corral. The Avonlea point would have also been economical of materials, being thin, and we have noted above that these points seem to have been manufactured from the somewhat limited local sources of stone, rather than from imported minerals. Thus, the Avonlea point type may have been a response to the stimulus of a new method of hunting and/or restriction on the importation of projectile point raw material.

LITERATURE CITED

Nero, Robert W. and Bruce A. McCorquodale
1958. Report of an Excavation at the Oxbow Dam Site. The Blue Jay, 16:82-90.

Wettlaufer, Boyd
1960. The Long Creek Site. Saskatchewan Museum of Natural History, Anthropological Series No. 2. Department of Natural Resources, Regina.

CORRECTION

The length of the Grand Coulee stone "hoe" described by Mr. G. Watson, Pense, in the **Blue Jay**, pp. 97-98, June, 1961, is actually only 228 mm. and not 280 mm. The picture shows it nearly as large as the Squaw Rapids (230 mm.) "hoe." The artifact was found on the NE ¼ 20-16-21-W2.

An Odd Corner of the Province – Old Man on His Back Plateau

by **John H. Hudson,** Saskatoon

If one drives past Robsart on Highway 13 one may see a low range of hills on the southern horizon. The casual observer dismisses them as another of our numerous stretches of dry morainic hills. The naturalist, however, might observe that the west end seems to end abruptly in a sharp drop, which at the distance of Robsart appears as a nick in the southern horizon. This is abnormal for morainic hills and means some unusual land form. One learns nothing from maps, as there is no contour map of the area, and ordinary maps no more than name the hills "Old Man on his Back Plateau" without more data.

Becoming curious about the area, I drove down from the Cypress Hills to the west end of the plateau in late June, 1956. A reasonable sort of earth road brings one precisely (Fig. 1) to this west end 12.4 miles south from Robsart. The south side may be viewed by going south another three miles, then turning east on Highway 46; the plateau lies to the north all the way east to Divide.

At this west end the first thing that struck my eye was the steep rise (Fig. 2) up to the plateau top, a rise of 200-300 feet above the road. This rise is covered with creeping juniper (Fig. 3), from which towards the top of the slope protrudes the odd cliff of yellowish sandstone. When I scrambled up to the top, a magnificent view was seen. Along the northern horizon the Cypress Hills were laid out in order from the West Block to Ravenscrag Butte. To the southeast a squarish tableland rose up to about eye level at no great distance—10 or 15 miles, I judged. (I later found this one to be Boundary Plateau). The unexpected sight was to the south. A range of jagged mountains rose about 1½ degrees above the horizon, and swept round in a 30° arc from 8° east of south to 20° or 22° west of south. By their degree of haziness I guessed them about thrice the distance of the Cypress Hills, which put them about sixty miles away. At that time I did not know their name or location; later I found out that these were the 7000-foot altitude Bearpaw Mountains of Montana, and that my distance estimate was not too far off. It should be added that on later visits I found that the East Butte of the Sweetgrass Hills may be spotted on the southwestern horizon.

Returning from the skyline to the immediate neighbourhood, I saw that here at its west end the plateau top is almost flat, perhaps with a slight slope eastward. A few quartzite cobblestones and glacial erratics were lying about. Save for the erratics, glacial drift was almost lacking. The vegetation of the plateau was that of ordinary dry prairie, in spite of the altitude of over 3500 feet above sea level. No trees were to be seen, and the brush in gullies on north slopes was pretty stunted. This is dry country south of the Cypress Hills.

From the foot of the sharp drop the ground slopes gently away for a couple of miles or so till it reaches the general prairie level of about 3050 feet. This outer slope is rather sad-looking country, especially to the northwest. Seamed with shallow arroyos, and wanting in sloughs, it abounds in clay-shale outcrops and burn-out pits, plain token of a shortage of glacial drift cover.

Later I did run across some published information on the plateau. A good description and early map were given by McConnell in 1885 (1), and some description and a good geological map by Furnival in 1946 (2). Their writings may be summed up thus: The plateau is roughly oval with the long axis running about 8 miles E.S.E. from its western tip in SE¼-10-3-25-W3rd. Glacial drift is banked up against the north side and east end, blotting out its limits; the plateau merely fades away into rolling morainic hills. (These hills are responsible for the origin of the name, according to a yarn I have encountered somewhere but cannot place; their skyline as seen from the northwest is said to resemble the silhouette of a fat old man lying on his back with his knees drawn up.) Contrariwise, the almost driftless west

Views of Old Man On His Back Plateau

View of west end from the north; distance 1½ miles.

View of west end from the west; distance ½ mile.

Close-up of west scarp; looking E.S.E. from 200 yards away. Shows juniper-covered sandstone slopes.

View from top looking north-west; shows sandstone ledge covering plateau with steep drop to barren plain beyond.

end and south side stand up as a steep-sided escarpment with good bedrock exposures. The hard cliff-forming yellow sandstones (Fig. 4) of the Frenchman formation are the uppermost strata, about 60 feet thick. Below lie softer strata; a few feet of Whitemud white clayey sands, 18-70 feet of mostly orange sands of the Eastend formation, and then grey Bearpaw shales continuing on down slope to prairie level and deeper. One doesn't see much of the Bearpaw on the slopes due to a sandy juniper-covered talus, but west of the road it outcrops on the gentle slope as light grey silts and clays. To the eastward along the south side of the escarpment, the glacial drift becomes thicker, outcrops fewer, and land forms more rounded.

As to the origin of the tableland, it is thought to be a remnant of an old land surface like the Cypress Hills, left as a hill by the removal of surrounding material. We may further surmise that it may have occupied an interstream area in preglacial time—the areas furthest from the rivers are the last to be worn away. The hard sandstone of the topmost stratum tends to slow down erosional removal of the plateau. This old land surface may once have extended quite widely south of the Cypress Hills as a lower bench, of which Boundary Plateau and the bench along the north shore of Cypress Lake, along with our Old-Man-on-his-Back Plateau, may be remnants sundered by the slow erosion of rivers; at any rate they all rise to about the same elevation, 3500 feet.

REFERENCES

1. R. G. McConnell, 1885. Report on Cypress Hills, Wood Mountain, and adjacent country. Annual Reports of the Geological Survey of Canada, part C.

2. G. M. Furnival, 1946. Cypress Lake Map Area. Geological Survey of Canada Memoir #242.

A few further comments may be found in M. Y. Williams and W. S. Dyer, 1930. Geology of Southern Alberta and Southwestern Saskatchewan. Geological Survey of Canada, Memoir #163.

LETTERS

MORE LETTERS PLEASE

We need space for more original observations. Since it is clear that this can be elicited from a much wider group than at present, and since we seem to be losing some of our observers, I'd suggest an increase in space devoted to "letters" or to "field notes" or "brief observations" in order to encourage more reporting by people who haven't a library to check literature or who only want to write a brief note.—**Robert W. Nero,** Regina.

The editors agree. Letters were regrettably crowded completely out of the June issue. We will try to see that this does not happen again.—**G. F. L.**

MORE BLUE JAY MEMBERS

Listening to the discussion of memberships on June 16 at the Summer Meeting in Saskatoon I wondered if more people would be members if the articles in the **Blue Jay** were less scientific. Believe me, I like the **Blue Jay** and appreciate how hard you work on it but I don't like to read too many "deep" articles. We country people like to read articles about things we understand.—**Hazel Paton,** Oxbow.

WINTER WILDERNESS

I have been fortunate this past winter in having the opportunity to go trapping. This experience has further rounded out my first hand knowledge of the north and provided a delightful sense of freedom and an intimate acquaintance with the solitude of a wintertime wilderness. I heard wolves howling during the first week in March in the Sulphide Lake area.—**Pete Gregg,** La Ronge.

GREATER PRAIRIE CHICKEN, CARDINAL

In the **Blue Jay** for June I read with interest the article about the Greater Prairie Chicken. It seems that the Greater Prairie Chicken has never been very numerous in northern Saskatchewan. However, I saw a few dozens of them near the present town site of Kamsack in 1907 and 1908. On seeing them for the two seasons only I concluded that township 29, range 32, was probably the northern limit of their range. Indians told me that they had seen them further south on the plains.

Another interesting record from the early days was the pair of Cardinals seen by my wife near Roblin, but on the Saskatchewan side of the border in May, 1895, and a single Cardinal that I saw in May, 1895. The latter arrived one fine day with a number of other migrants on their way north.—**P. Fraser,** Wolseley.

BLACK-BILLED CUCKOO

Opening my back door on the morning of June 19, I was surprised and delighted to heard the gurgle and "kuk-kuk-kuk" of a cuckoo|Black-billed Cuckoo.—Ed.|. Since then I have heard it several times. It is the first I have seen for a few years, though I have seen them here in the valley frequently. I am inclined to believe the statement in Neltje Blanchan's **Song Birds,** that they enjoy tent caterpillars as food, for we have that pest this year.—**Clarissa Stewart,** Fairy Hill, Sask.

LARGE ROCKS

Your "Large stone contest," page 34, March, 1961, prompts me to mention the following, both outside of Canada. "Steamboat Rock" is a landmark 800 feet high and two miles long and one half mile wide on the floor of Grand Coulee, now the Columbia Basin irrigation project, in central Washington. Another large pebble is in the centre of Australia, named "Ayers Rockagranite Monolith." It is five miles in circumference and 1200 feet high. There may be some large rocks in the coteau here. In the early years of this district one was reported as being a local landmark. It was said to be like a small house. It's off my beat but I will make inquiries.—**C. R. Coates,** Birsay.

NEED FOR CONSERVATION

You are doing good work in interesting young and old in the necessity and value of conservation. As a prairie dweller for seventy-seven years, first in Manitoba and now for forty-four years in Alberta, I have watched the gradual decrease in numbers of so many of our wild birds with sadness. I hope that your efforts will bear good fruit. I try to do my bit in directing the attention of my grand-children to the value of most of our birds.—**Mrs. S. B. King,** Lacombe.

SASKATCHEWAN MUSEUM OF NATURAL HISTORY

On December 15, 1960, I had the pleasure of visiting the Natural History Museum in Regina. During the past three years my wife and I have had the opportunity of visiting many natural history museums in Europe but the manner in which the specimens are shown in their natural environment in the museum in Regina far surpasses any displays we have seen in Europe and in various parts of Canada. The Director and his staff certainly deserve a generous compliment.—**S. K. Bricker,** Calgary, Alta.

SPECIAL REFUGE FUND

Your proposed project to acquire land for wildlife refuges appears to me as very worthwhile. I trust the project will be highly successful and that your efforts will prove of lasting benefit. I hope you get several thousand donations from those who believe in preserving wildlife as a heritage for posterity. If I can be of assistance in any way do not hesitate to call on me. Good luck!—**Edward T. Howe,** Agrologist, Altona, Alta.

Ed. Note: Our thanks to Mr. Howe for his generous donation, and to others who have sent in money as a real encouragement in this project. We hope that land for purchase can be selected in the near future and that this can be approved at the annual meeting and reported in the December **Blue Jay.** In the meantime, more financial encouragement is needed.

SAW-WHET OWLS

During March and April these beautiful little "night-pipers," the Saw-whet Owls, start piping. They are great wanderers and they haven't been in the Edmonton vicinity in any great numbers for some time. I have enjoyed the **Blue Jay** but I would like to see more photographs. I enclose five photographs and hope that they will help. — **Richard Lumsden,** Edmonton.

SNOWY OWLS

On April 11 (1961) driving between Arborfield and Codette on highway 35 about 6.45 p.m. I observed three Snowy Owls, all within a relatively short distance. All were on telephone poles beside the highway. There was no doubt as to the identity of these birds. I tried to photograph one but as soon as the car stopped he flew. The next day returning south on the same road I saw only one owl.—**Colin Ward,** Saskatoon.

PRAIRIE SPRING?

SEE PAGE 120

The Blue Jay Bookshelf

A HAWK FOR THE BUSH. By J. G. Mavrogordato. 1961. Charles. T. Branford Co., Newton Centre 59, Massachusetts. Price $10.00.

This book is a treatise on the training of the European Sparrow Hawk and other short-winged hawks. Since the Sparrow Hawk is the most difficult of all short-winged hawks to keep, man and train, the author has given it first place and dealt with it in full detail. The methods in this book may well be applied to our smaller relative of the European Sparrow Hawk. Since the training of other short-winged hawks, e.g. Goshawk and Cooper's Hawk, are along the same lines, the author briefly enumerates these hawks and points out their characteristics and points of distinction.

To my knowledge, this is the most complete book in print today dealing with the manning and training of the short-winged hawks. The author's knowledge is based on twenty years of experience and deals in great detail with such important problems as choice of a hawk, diet, health and disease.

Since much of the manning and training of short-wings and long-wings differ only in emphasis and degree, even the trainer of long-wings will find this book of some help. There are also several black-and-white and full-color illustrations of European short-winged hawks by the late G. E. Lodge, master in the portrayal of birds of prey.—**R. D. Carson,** Saskatchewan Museum of Natural History, Regina.

THE LAWN BOOK. By Robert W. Schery. 1961. Brett-Macmillan Ltd., Galt, Ontario. Price $5.95.

As a director of the Lawn Institute of America, Robert W. Schery is an outstanding authority on lawns. It is his belief that no matter how many flowers, shrubs and trees surround a house, their beauty is always accentuated, and the value and attractiveness of a home is greatly enhanced, by the cool green freshness of a properly constructed and managed lawn.

Every aspect of lawn planning, culture and care is explained in detail throughout the 200 pages of this recent book. He recommends the best grasses and grass mixtures to grow in different areas of Canada and United States. He outlines proper methods to prepare a suitable seedbed and to sow the seed. The procedure of mulching and methods of watering after seeding are emphasized. He warns against the harm often done by unnecessary watering, resulting too often in "mud pie, which dries and hardens into cakes, like concrete."

A chapter is devoted to the various fertilizers which should be used, as well as the proper method and time of application. Weeds, insects and diseases which invade and tend to destroy lawns are described, and ways of eradication suggested.

The book is well illustrated by means of carefully-constructed line drawings—15 of lawn grasses, 40 of destructive weeds, and 15 of the most persistent lawn insects.

An interesting feature of the book is Dr. Schery's method of dispelling common fallacies in relation to the lawn and its care. A section at the end of each chapter, entitled "More Fancy Than Fact," does just that. Following are a few of the forty-eight misconceptions which he has pointed out:

"Tree shade prevents good grass. The lawn must be rolled. Spring is the preferred season for grass-growing. Close mowing is more attractive. Gardens should be watered at night. Don't water in the hot sun."

Even these few samples may be a surprise to some, but the writer backs up each by what he considers to be the true facts. For instance, in respect to the last fallacy mentioned, here is what Dr. Schery considers to be the fact:

"Somehow the idea got around that drops of water act as small magnifying lenses that burn vegetation. Mechanically this is next to impossible, and actually never occurs. Watering in the sun is, if anything, beneficial to the grass because it cools the plants through contact and evaporation."

The Lawn Book is full of many surprises and valuable facts.—**Lloyd T. Carmichael,** Regina.

A contribution to the life history of the Clay-colored Sparrow. By Glen A. Fox. Auk, 78:220-224, April, 1961.

In the April, 1961, issue of the **Auk**, Glen Fox presents the results of a study he made in the summer of 1959 of the Clay-colored Sparrow near Kindersley, Saskatchewan. Seven nesting pairs of unmarked birds were observed during the breeding season. Although seven pairs do not represent a large sample of the Clay-colored Sparrow, which is a common summer resident in Saskatchewan, Fox's published study is of interest because recent published literature on this species is apparently limited to two papers by L. H. Walkinshaw which appeared in 1939 (**Wilson Bull.**, 51:17-21) and in 1944 (**Jack-Pine Warbler**, 22:119-131). Published information on species like the Clay-colored Sparrow is so meagre that a volume on the Fringillidae in the Bent series is eagerly awaited.

In the 15-acre area of prairie grassland studied by Fox, 12 pairs of Clay-colored Sparrows were noted. Nine nests were found — seven in snowberry, one in grass, and one on the ground under a tussock of grass. Two of the nine were nests located later in the original territories, and therefore assumed to be second nests of two of the original nesting pairs. Seven pairs were therefore recorded breeding in the area. Of the 27 eggs laid in nine nests, only four eggs in one nest hatched. Of the failures, 25 per cent seemed due to parasitization by cowbirds; the other 59.3 per cent were due to unknown causes.

Fox's study records his observation of mating, nesting, egg laying and incubation, cowbird parasitism, and development and parental care of young.—**M. B.**

Northern Great Plains Region, winter season and winter bird population study. By Robert W. Nero. Aud. Field Notes, 15:337-341.

Dr. R. W. Nero, who recently became the **Audubon Field Notes** regional editor for the Northern Great Plains region, reviews the winter bird picture in a comprehensive survey covering parts of three American states (Montana, North and South Dakota) and three Canadian provinces (Manitoba, Saskatchewan, Alberta). From this detailed report it can be seen that gathering, selecting, and compiling records submitted by numerous contributors from representative points constitutes a great deal of work for each regional editor.

Unusually mild weather prevailed in the area throughout the winter, with below normal precipitation. Warm weather permitted a number of summer residents to survive the winter. Through the winter, Bohemian Waxwings and Short-eared Owls seemed especially abundant, but Snowy Owls were noticeably scarce. Of special interest were the following records—a European Widgeon reported at Frank Lake, Alberta, on March 31, apparently the third Alberta record; a Brown Thrasher that wintered at Saskatoon; a Townsend's Solitaire which spent the winter at Regina, for a first winter record; and a Cardinal collected at Craven, Saskatchewan, on December 29, 1960.

Dr. Nero is to be commended for accepting the responsibility of compiling the records for the Northern Great Plains Region, and **Blue Jay** readers will look forward to further comprehensive reports in the **Audubon Field Notes** on spring and fall migration and breeding bird censuses for the area.—**M. B.**

READ THESE

When Doug Wade of the Conservation Information Service spoke to the Regina Natural History Society on one of the Sunday excursions to the Society's Hidden Valley Sanctuary, he chose the theme of "Our Relationship to Nature" and showed how natural history groups should progress from bird watching and "trophy" collecting to more serious study of the inter-relationship of living things in their environment. For people seriously interested in this ecological approach he recommended the following books:

Elton, Charles. 1958. The ecology of invasions by plants and animals. John Wiley and Sons, Inc. $5.25.

Errington, Paul L., 1957. Of men and marshes. The MacMillan Co. $4.50.

Leopold, Aldo. 1949. A Sand County almanac. Oxford University Press. $3.50.

Thomas, Wm. L. (editor). 1956. Man's role in changing the face of the earth. University of Chicago Press. $12.50.

Club Notes

JOTTINGS FROM SASKATOON
(S.N.H.S. Summer Meeting, June 16-18)

by **Dorothy Wade**, Regina

The Russian troika couldn't hold a candle to the Saskatchewan Natural History Society's summer meeting, June 16-18, centering at Saskatoon. History, birds, plants—all three tugged at the conferee; and, we did hear someone mention rocks at least once and saw three butterfly nets waving in the breeze.

All of this got off to a good start Friday evening when those who ran the maze of dead-end roads on the University campus and the battery of registers settled down for a fast-moving business meeting. Immediately upon the demise of the business, Dr. R. C. Russell was introduced. With slides and a personal knowledge of locations, Dr. Russell sketched in much of the history of several routes which were followed on Saturday.

Friday evening wound up with a tremendous repast of well-prepared and tasty sandwiches, cakes, cookies and beverages. Even the coffee urn spouted forth in the best tradition of incomparable Saskatoon Natural History Society hospitality and served everyone well, including the floor. Reluctantly we left the good talk and eats to get a few hours rest before pitching into the Saturday early morning bird trip (not all of us got up) and the open road of history and natural history with the picnic supper windup at Sandy Lake.

Although the officers and committee conveners performed nobly before some 100 members during the business meeting, it proved impossible to discuss all the ramifications of the various programs that confront a large society and cut across so many phases of natural history and conservation of wild and living plants and animals. However, the officers and board members did get some consensus of the opinions of assembled members on several matters of business.

Among the important topics selected for brief discussion, one of the more far-ranging and of national import was that dealing with a proposal for a national waterfowl or "wetlands" stamp. Such a stamp would be purchased by waterfowl hunters and those interested in wetland preservation. It would provide funds earmarked for purchase or lease of wetland habitats which are so vital to waterfowl and other birds and animal life. Saskatchewan is in the centre of things concerning waterfowl and it is fitting that this proposal for a stamp should come from SNHS.

The excursions on Saturday were most satisfying. The catered dinner was just right and eaten in the midst of a hallowed battleground at Batoche. History, birds, flowers, and even the good humour of Gabriel Dumont permeated the scene.

With the South Saskatchewan in flood (snow water from the mountains) the ferry trip was quite speedy. It was too speedy for several ardent birders who, under the eye of Dr. Nero, were hot on the trail of a possible southern-most nesting record for the Slate-colored Junco along the right bank of the river near the ferry outpost.

We're not sure where everyone went during the morning and afternoon, but we do know that all were eventually on hand for the noon meal and the picnic supper at Sandy Lake.

Immediately after the noon meal, one group took off to touch on the Carlton Trail and visit old Fort Carlton.

Duck Lake proved exciting with a Black-bellied Plover and a Semipalmated Plover, along with a host of ducks, coots, grebes, and a flock of Bonaparte's Gulls (largely immature) being observed by those who trod the mud-incrusted shores.

Sandy Lake is a southernmost extension of the Canadian Zone. The White-winged Scoters, the family of Goldeneyes, the cry of the Pigeon Hawk, and the distinctive northern flora were part of the scene. The beautiful Mealy (what a horrible name) Primrose (*Primula incana*) was a treat for all, although it is not precisely a northern plant.

The grounds at the picnic site were remarkably clean of litter and free

of vandalism. Those developing this delightful spot deserve commendation.

The capture of a young Horned Owl and Ralph Stueck's nursery of bottle-fed, Thirteen-lined Ground Squirrels, the Long-billed Marsh Wren's nests, including several dummy nests, provided the "portrait" cameramen with good shots. And we learned that the two collectors from the National Museum, with ardent helpers, got good listings of reptiles and amphibians later that evening. Many of the younger members of the SNHS have gained tremendously through friendly informal talks and excursions with these highly trained men who are systematically working over Saskatchewan to map distribution of reptiles and amphibians.

Saturday night was a bit disjointed with several of the members finding themselves locked out of their rooms. Sunday found a goodly number gathered for a trip to Pike Lake Provincial Park and others departing for home.

The perambulations of the SNHS members homeward would probably fill a full issue of the **Blue Jay.** En route homeward, some members stopped near Outlook to view the dam on the South Saskatchewan and others penetrated the Beaver Creek sandhills and the River Road. Doug Gilroy deserved his ten trips for dessert on Saturday noon; he suffered three flat tires in two days.

It would be difficult to name all those who made this summer outing such a success. We certainly owe Dr. Houston and Frank Roy and the Saskatoon Natural History Society many thanks for a job well done. For top fun, fellowship and knowledge easy to come by, the SNHS's annual summer outings are hard to beat.

BIRD SPECIES LIST S.N.H.S. SUMMER MEETING June 17-18, 1961

I. FISH CREEK-BATOCHE

Horned Grebe, White Pelican, Mallard, Pintail, Blue-winged Teal, American Widgeon, Red-tailed Hawk, Swainsons Hawk, Ferruginous Hawk, Marsh Hawk, Sparrow Hawk, Killdeer, Spotted Sandpiper, Willet, California Gull, Black Tern, Mourning Dove, Eastern Kingbird, Eastern Phoebe, Traill's Flycatcher, Least Flycatcher, Horned Lark, Tree Swallow, Bank Swallow, Barn Swallow, Cliff Swallow, Purple Martin, Black-billed Magpie, Common Crow, House Wren, Catbird, Brown Thrasher, Robin, Veery, Mountain Bluebird, Sprague's Pipit, Cedar Waxwing, Loggerhead Shrike, Starling, Red-eyed Vireo, Warbling Vireo, Orange-crowned Warbler, Yellow Warbler, House Sparrow, Western Meadowlark, Yellow-headed Blackbird, Redwinged Blackbird, Baltimore Oriole, Brewer's Blackbird, Brown-headed Cowbird, American Goldfinch, Savannah Sparrow, Vesper Sparrow, Slate-colored Junco, Chipping Sparrow, Clay-colored Sparrow, Song Sparrow.

II. DUCK LAKE-CARLTON, ADAMSON LAKE

Horned Grebe, Eared Grebe, American Bittern, Mallard, Gadwall, Pintail, Blue-winged Teal, American Widgeon, Shoveler, Redhead, Ring-necked Duck, Canvasback, Lesser Scaup, Common Goldeneye, Bufflehead, White-winged Scoter, Ruddy Duck, Common Merganser, Red-tailed Hawk, Marsh Hawk, Pigeon Hawk, Sora, American Coot, Killdeer, Black-bellied Plover, Spotted Sandpiper, Willet, Lesser Yellowlegs, Marbled Godwit, American Avocet, Wilson's Phalarope, California Gull, Ring-billed Gull, Franklin's Gull, Bonaparte's Gull, Black Tern, Mourning Dove, Great Horned Owl, Common Nighthawk, Ruby-throated Hummingbird, Yellow-shafted Flicker, Downy Woodpecker, Eastern Kingbird, Great Crested Flycatcher, Eastern Phoebe, Least Flycatcher, Horned Lark, Tree Swallow, Bank Swallow, Black-billed Magpie, Common Crow, Black-capped Chickadee, House Wren, Long-billed Marsh Wren, Catbird, Brown Thrasher, Robin, Hermit Thrush, Veery, Mountain Bluebird, Cedar Waxwing, Loggerhead Shrike, Starling, Red-eyed Vireo, Warbling Vireo, Yellow Warbler, American Redstart, House Sparrow, Bobolink, Western Meadowlark, Yellow-headed Blackbird, Redwinged blackbird, Baltimore Oriole, Brewer's Blackbird, Common Grackle, Brown-headed Cowbird, Rose-breasted Grosbeak, American Goldfinch, Rufous-sided Towhee, Savannah Sparrow, Vesper Sparrow, Clay-colored Sparrow, Fox Sparrow.

III. ADDITIONAL SPECIES (seen at Porter Lake)

Pied-billed Grebe, Green-winged Teal, Greater Yellowlegs, Rock Dove, Hairy Woodpecker, Yellowthroat, Baird's Sparrow.

S.N.H.S. MEMBERS ASSIST IN MARSH HAWK PROJECT

On June 2, Gary Anweiler and Ross Lein left Saskatchewan to travel to Plainfield, Wisconsin, to assist Dr. Fran Hamerstrom in a research project on the Marsh Hawk. This project is being supported by a special grant from the A.O.U. Transportation to Wisconsin was kindly provided by Mr. and Mrs. Doug Wade, with expenses at Plainfield and return fare to be met by Dr. Hamerstrom. These are the two young ornithologists who accompanied Ralph Carson on the recent survey of the South Saskatchewan River Valley. The benefits of working with the Hamerstroms, who have an international reputation in wildlife research, are obvious and no doubt will be of value in shaping the careers of these two young men. Arrangements for this program were made by the Assistant Director of the Saskatchewan Museum of Natural History.

S.N.H.S. RESEARCH GRANTS AWARDED

Two grants of $50.00 each have been made from the S.N.H.S. Research Grants Fund for work in progress during the summer of 1961.

The first of these awards goes to BERNARD DE VRIES of Fort Qu'Appelle, who is engaged in a study of the plants of the Qu'Appelle Valley.

The second award goes to RONALD and DONALD HOOPER of Somme, who are making a study of the butterflies of Saskatchewan.

S.N.H.S. ANNUAL MEETING, OCTOBER 13-14, 1961

Place: Saskatchewan Museum of Natural History, Regina.

Programme:

Friday Evening, October 13

7.30 p.m.—Meeting of Executive and Directors, Board Room.

9.30 p.m.—Coffee Hour. Members, friends. Museum Lounge.

Saturday, October 14

7.00 a.m.—Bird Hike. Leaving Regina College.

9.00 a.m.—Registration. S.M.N.H. Adults $1.00. Dinner tickets additional.

9.30 a.m.-1.30 p.m.—Business and Programme Sessions.

6.15 p.m.—Dinner. To be arranged.

3.00 p.m.—Address by Prof. F. H. Edmunds, Head of Geology Department, University of Saskatchewan, on "Some aspects of the geology of the sand dunes of Lake Athabasca."

MEMBERS' CONTRIBUTIONS

There will be time during the meeting for the showing of members' slides. Bring along ten of your best slides for a five-minute contribution to the programme. If you have other items of interest, please bring them for display during the sessions. Please let the programme chairman, Dr. R. W. Nero, know in advance what your contribution will be.

NOMINATIONS AND RESOLUTIONS

Please send nominations and resolutions to the Secretary, Margaret Belcher, Regina College, Regina, BEFORE October 6, 1961, so that these can be submitted in advance to the chairmen of the committees.

NATURE PICTURES WANTED

The National Parks Branch, Department of Northern Affairs and National Resources, Ottawa, wants black and white pictures of animals, plants and other nature subjects. Photos need not be taken in National Parks but must relate to them. Payment will vary depending on subject, quantity purchased and whether exclusive rights are sold. Write to: George M. Stirrett, Chief Parks Naturalist, National Parks Branch, Ottawa, Ontario.

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NOTICE TO MEMBERS

To facilitate bookkeeping and mailing, we are asking for subscription renewals in this issue instead of the December issue, although the membership is still based on the calendar year, and your subscription does not run out until December. If you know of anyone who failed to receive copies of the **Blue Jay** after paying their 1961 subscription, urge them to write at once to the Treasurer to get their copies.

In renewing your membership, please keep in mind Christmas gift subscriptions—gifts will be announced by a card. Each new member joining now will receive the December, 1961, issue as well as all four issues for 1962.

MEMBERSHIPS

All persons interested in any aspect of nature are invited to join the Saskatchewan Natural History Society. Membership dues per calendar year are: Regular, $2.00; Junior (including schools), $1.00. The **Blue Jay** is sent without charge to all members not in arrears for dues. Send your membership to the treasurer, Mrs. Grace Steele, 3603 Caen Ave., Regina, Sask.

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